

WRDC-TR-90-8007  
Volume VI  
Part 7

**AD-A248 909**



INTEGRATED INFORMATION SUPPORT SYSTEM (IISS)  
Volume VI - Network Transaction Manager Subsystem  
Part 7 - Network Transaction Manager (NTM) Services Product  
Specification

S. Barker

Control Data Corporation  
Integration Technology Services  
2970 Presidential Drive  
Fairborn, OH 45324-6209



September 1990

Final Report for Period 1 April 1987 - 31 December 1990

Approved for Public Release; Distribution is Unlimited

**92 4 14 048**

**92-09611**



MANUFACTURING TECHNOLOGY DIRECTORATE  
WRIGHT RESEARCH AND DEVELOPMENT CENTER  
AIR FORCE SYSTEMS COMMAND  
WRIGHT-PATTERSON AIR FORCE BASE, OHIO 45433-6533

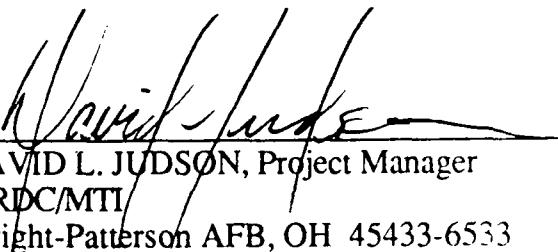
**Best  
Available  
Copy**

## NOTICE

When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no responsibility nor any obligation whatsoever, regardless whether or not the government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data. It should not, therefore, be construed or implied by any person, persons, or organization that the Government is licensing or conveying any rights or permission to manufacture, use, or market any patented invention that may in any way be related thereto.

This technical report has been reviewed and is approved for publication.

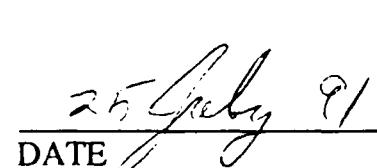
This report is releasable to the National Technical Information Service (NTIS). At NTIS, it will be available to the general public, including foreign nations

  
DAVID L. JUDSON, Project Manager  
WRDC/MTI  
Wright-Patterson AFB, OH 45433-6533

  
DATE

FOR THE COMMANDER:

  
BRUCE A. RASMUSSEN, Chief  
WRDC/MTI  
Wright-Patterson AFB, OH 45433-6533

  
DATE

If your address has changed, if you wish to be removed from our mailing list, or if the addressee is no longer employed by your organization please notify WRDC/MTI, Wright-Patterson Air Force Base, OH 45433-6533 to help us maintain a current mailing list.

Copies of this report should not be returned unless return is required by security considerations, contractual obligations, or notice on a specific document.

## REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION Unclassified		1b. RESTRICTIVE MARKINGS None			
2a. SECURITY CLASSIFICATION AUTHORITY		3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for Public Release: Distribution is Unlimited.			
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE					
4. PERFORMING ORGANIZATION REPORT NUMBER(S) PS 620342300		5. MONITORING ORGANIZATION REPORT NUMBER(S) WRDC-TR-90-8007 Vol. VI, Part 7			
6a. NAME OF PERFORMING ORGANIZATION Control Data Corporation; Integration Technology Services	6b. OFFICE SYMBOL (if applicable)	7a. NAME OF MONITORING ORGANIZATION WRDC/MTI			
6c. ADDRESS (City, State, and ZIP Code) 2970 Presidential Drive Fairborn, OH 45324-6209		7b. ADDRESS (City, State, and ZIP Code) WPAFB, OH 45433-6533			
8a. NAME OF FUNDING/SPONSORING ORGANIZATION Wright Research and Development Center, Air Force Systems Command, USAF	8b. OFFICE SYMBOL (if applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUM. F33600-87-C-0464			
8c. ADDRESS (City, State, and ZIP Code) Wright-Patterson AFB, Ohio 45433-6533		10. SOURCE OF FUNDING NOS.			
11. TITLE (Include Security Classification) See Block 19		PROGRAM ELEMENT NO.	PROJECT NO.	TASK NO.	WORK UNIT NO
12. PERSONAL AUTHOR(S) Structural Dynamics Research Corporation: Barker, S., et al.		78011F	595600	F95600	20950607
13a. TYPE OF REPORT Final Report	13b. TIME COVERED 4/1/87 - 12/31/90	14. DATE OF REPORT (Yr., Mo., Day) 1990 September 30		15. PAGE COUNT 182	
16. SUPPLEMENTARY NOTATION WRDC/MTI Project Priority 6203					
17. COSATI CODES		18. SUBJECT TERMS (Continue on reverse if necessary and identify block no.)			
FIELD	GROUP	SUB GR.			
1308	0905				
19. ABSTRACT (Continue on reverse if necessary and identify block number)					
This specification establishes the 'as built' design of the Network Transaction Manager subsystem.					
Block 11 (Cont) - INTEGRATED INFORMATION SUPPORT SYSTEM (IISS) Vol VI - Network Transaction Manager Subsystem Part 7 - Network Transaction Manager (NTM) Services Product Specification					
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT UNCLASSIFIED/UNLIMITED x SAME AS RPT. DTIC USERS			21. ABSTRACT SECURITY CLASSIFICATION Unclassified		
22a. NAME OF RESPONSIBLE INDIVIDUAL David L. Judson			22b. TELEPHONE NO. (Include Area Code) (513) 255-7371	22c. OFFICE SYMBOL WRDC/MTI	

EDITION OF 1 JAN 73 IS OBSOLETE

DD FORM 1473, 83 APR

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE

FOREWORD

This technical report covers work performed under Air Force Contract F33600-87-C-0464, DAPro Project. This contract is sponsored by the Manufacturing Technology Directorate, Air Force Systems Command, Wright-Patterson Air Force Base, Ohio. It was administered under the technical direction of Mr. Bruce A. Rasmussen, Branch Chief, Integration Technology Division, Manufacturing Technology Directorate, through Mr. David L. Judson, Project Manager. The Prime Contractor was Integration Technology Services, Software Programs Division, of the Control Data Corporation, Dayton, Ohio, under the direction of Mr. W. A. Osborne. The DAPro Project Manager for Control Data Corporation was Mr. Jimmy P. Maxwell.

The DAPro project was created to continue the development, test, and demonstration of the Integrated Information Support System (IISS). The IISS technology work comprises enhancements to IISS software and the establishment and operation of IISS test bed hardware and communications for developers and users.

The following list names the Control Data Corporation subcontractors and their contributing activities:

<u>SUBCONTRACTOR</u>	<u>ROLE</u>
Control Data Corporation	Responsible for the overall Common Data Model design development and implementation, IISS integration and test, and technology transfer of IISS.
D. Appleton Company	Responsible for providing software information services for the Common Data Model and IDEF1X integration methodology.
CNTEK	Responsible for defining and testing a representative integrated system base in Artificial Intelligence techniques to establish fitness for use.
Simpact Corporation	Responsible for Communication development.

<u>Accession For</u>	
NTIS GRA&I	<input checked="" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
<u>Justification</u>	
By _____	
<u>Distribution/</u>	
<u>Availability Codes</u>	
Dist	Avail and/or Special
A-1	

Structural Dynamics  
Research Corporation

Responsible for User Interfaces,  
Virtual Terminal Interface, and Network  
Transaction Manager design,  
development, implementation, and  
support.

Arizona State University

Responsible for test bed operations  
and support.

TABLE OF CONTENTS

	<u>Page</u>
SECTION 1.0 SCOPE .....	1-1
1.1 Identification .....	1-1
1.2 Functional Summary .....	1-1
SECTION 2.0 DOCUMENTS .....	2-1
2.1 Reference Documents .....	2-1
2.2 Terms and Abbreviations .....	2-2
SECTION 3.0 REQUIREMENTS .....	3-1
3.1 Structural Descriptions .....	3-1
3.2 Functional Flow Description .....	3-1
3.3 Interfaces .....	3-2
3.4 Program Interrupts .....	3-2
3.5 Timing and Sequence Description .....	3-2
3.6 Special Control Features .....	3-2
3.7 Storage Allocation .....	3-2
3.7.1 Data Base Definition .....	3-2
3.7.1.1 File Description .....	3-2
3.7.1.2 Table Description .....	3-2
3.7.1.3 Item and Constant Description .....	3-2
3.7.2 CPC Relationship .....	3-3
3.8 Object Code Creation .....	3-3
3.9 Adaption Data .....	3-3
3.10 Detail Design Description .....	3-4
3.10.1 Main Program List .....	3-4
3.10.2 Module List .....	3-7
3.10.3 External Routines List .....	3-11
3.10.4 Include File List .....	3-13
3.10.5 Where Include File Used List .....	3-15
3.10.6 Where External Routine Used List .....	3-26
3.10.7 Main Program Parts List .....	3-35
3.10.8 Module Documentation .....	3-60
3.10.9 Include File Descriptions .....	3-115
3.10.10 Hierarchy Chart .....	3-135
3.11 Program Listings Comments .....	3-174
4.0 QUALITY ASSURANCE PROVISIONS .....	4-1
4.1 Introduction and Definitions .....	4-1
4.2 Computer Programming Test and Evaluation .....	4-1

SECTION 1

SCOPE

1.1 Identification

This specification establishes the 'as built' design of the Software Services component of the Network Transaction Manager Subsystem.

1.2 Functional Summary

The Network Transaction Manager (NTM) Subsystem provides the control and support services to application processes that are grouped together logically in clusters called Application Process Cluster (APCs). These application processes communicate with one another by sending messages via the NTM. The NTM delivers these messages to the destination application processes while also providing other services for the APs such as message pairing, AP initiation, and message queuing.

SECTION 2  
DOCUMENTS

2.1 Reference Documents

The following pertinent reference materials are available at the ICAM Program Office.

1. Interim Reports
2. Life Cycle Documents
  - (a) ITR620150002U Project Scope
  - (b) PMP620150000 Master Plan and Schedule
  - (c) SAD620150000 State-of-the-Art Review
  - (d) SRD620140000 System Requirements Document
  - (e) SDS620140000 System Design Specifications
  - (f) DS6201420000 Development Specification - Network Transaction Manager Subsystem

The following reference materials are available from Digital Equipment Corporation.

- (a) VAX/VMS I/O User's Guide (Volume 1), Order No. AA-M540B-TE
- (b) VAX/VMS I/O User's Guide (Volume 2), Order No. AA-M541B-TE
- (c) VAX COBOL Language Reference Manual, Order No. AA-H631C-TE
- (d) VAX-11 FORTRAN Language Reference Manual, Order No. AA-D034C-TE

Other reference materials are as follows.

- (a) International Organization for Standardization, Open Systems Interconnection, Information Processing Systems - Basic Reference Model, TC 97/16 N 719
- (b) International Organization for Standardization, Open Systems Interconnection, Draft, Connection-Oriented Transport Service Definition TC 97/16 N 860
- (c) International Organization for Standardization, Open Systems Interconnection, Draft, Connection-Oriented Transport Protocol Specification Version 1.2, TC 97/16 N 861

- (d) International Organization for Standardization, Open Systems Interconnection, Draft, Connection-Oriented Session Protocol Definition TC 97/16 N 856
- (e) National Bureau of Standards, Specification of the Transport Protocol, Volume 2: Basic Class Protocol, Draft Report, September 1981, Report No. ICST/HLNP-81-12
- (f) National Bureau of Standards, Specification of the Transport Protocol, Volume 3: Extended Class Protocol, Draft Report, September 1981, Report No. ICST/HLNP-81-13
- (g) National Bureau of Standards, Specification of the Transport Protocol, Volume 4: Network Interfaces, Draft Report, September 1981, Report No. ICST/HLNP-81-14

## 2.2 Terms And Abbreviations

1. Interhost Communication Primitives (IHC's) - A set of routines used by the NTM to interface to the operating system or to other operating systems which have an NTM running. They are always system dependent.
2. Interprocess Communication Primitives (IPC's) - A set of routines used to communicate between two processes on the same computer. They are always system dependent.

### SECTION 3

#### REQUIREMENTS

##### 3.1 Structural Descriptions

The NTM Services Modules are the routines that are bound with new IISS APs to provide the management of the AP's communication with the IISS.

##### 3.2 Functional Flow Description

The NTM Services can be grouped according to their basic function in the following way:

The NTM Communication Initiation Routines:

- INICOM (used by the COMM APs for initiation)
- INITAL (used for initiation by all IISS APs except COMM and the UI)
- INITEX (used by the UI AP for initiation)
- LOGON (used by the UI to send user logon information to the NTM)

The NTM Communication Routines:

- CHGROL (used by the UI to tell the NTM about a user's role change)
- CHKMSG (used as a check to determine whether a message has arrived for the AP)
- GDACK (used to acknowledge guaranteed delivery messages)
- GDSEN (used to send guaranteed delivery messages)
- ISEND (used to send a message that will specifically cause the initiation of a new instance of an IISS AP)
- NSEND (used to send message to other IISS APs)
- QSEND (used by Queue-Server APs to send messages back to the AP whose message was just received)
- RCV (used to receive any messages that may have been sent by other IISS APs)
- IGERR (used to send an error message to both the user of this AP and the NTM Monitor)
- TSTMOD (used by the UI to signal message filtering needs)

#### NTM Status Services

- GETUSR (used to get user information, original source, and original logical channel)
- WHTHST (used to determine host name where requested AP resides)

## NTM Termination Services

- LOGOFF (used by the UI to inform the NTM of a user logoff)
- TRMNAT (used by all IISS APs to terminate their communication connection to the NTM)
- TRMNAX (used by the COMM APs to terminate their communication connection to the NTM)

### 3.3 Interfaces

The Network Transaction Manager maintains communications with any other process through mailboxes. The mailboxes are managed by the Interprocess Communication Primitives (IPC's).

Communications with the remote computer is accomplished through the Communication sub-system process which will be running when there are other hosts to communicate with.

### 3.4 Program Interrupts

Many NTM Services are interrupt driven with interrupts coming either from the IPC's on behalf of an NTM MPU. Waiting for these interrupts is performed by one of the IPC wait primitives. If a response must be received within a particular time interval, the IPC's associated with timing are used along with one of the wait's.

### 3.5 Timing and Sequence Description

The NTM does not depend on any particular timing sequences.

### 3.6 Special Control Features

The Network Transaction Manager Subsystem does not include any special control features as defined in the ICAM Documentation Standards manual.

### 3.7 Storage Allocation

#### 3.7.1 Data Base Definition

##### 3.7.1.1 File Description

All file handling is done by the Message Processing Units and not by the NTM Services themselves.

##### 3.7.1.2 Table Description

There are no tables which are used by all of the NTM Services. Information regarding the individual APs is stored and handled by the Message Processing Units and not by the NTM Services themselves.

##### 3.7.1.3 Item and Constant Description

Described in the DS.

### 3.7.2 CPC Relationship

### 3.8 Object Code Creation

The generic portion of NTM is written in COBOL and 'C'. This has been successfully compiled on a VAX 11/780 under VMS, an IBM 3084 under MVS, and a Honeywell Level 6 under Mod 400.

The minimum computer hardware and software required to create and run NTM in the IISS environment is documented in the Installation Guide for IISS on the VAX and in the Installation Guide for IISS on the IBM.

### 3.9 Adaption Data

The command procedures to the create IISS AP executables such that they contain the NTM Services are specific to each computer and can be found under Software Configuration Management.

### 3.10 Detail Design Description

The upcoming program details were derived from all modules that were selected when the following Documentation Group(s) was chosen:

NTMSERV

#### 3.10.1 Main Program List

The following is a list of all "Main Programs" which are modules that are not called by any other module being documented here. These modules are either program entry points or, if they are hooked into another set of programs via subroutine calls, they are the points the external programs can call and therefore enter through. To differentiate between the two types of entry points, look at the individual Module Documentation (section 3.10.8) and look at Module Type for each of the Main Program modules listed. Note whether the routine is a Program, Subroutine, or Function. If it is a Program, it is truly a main program entry point. If not, then it is merely called by other programs not being documented here.

NTM/SERV Main Program List

Module Name	Purpose
ASCTIM	CALLED BY MPU'S TO GET THE SYSTEM TIME AS AN ASCII STRING.
CHGROL2	CHANGE THE ROLE UNDER WHICH A USER LOGGED ON.
CHKMSG2	TO CHECK FOR MESSAGES FROM OTHER APS IN THE IISS .
ERRAPI	PURPOSE NOT KNOWN - ACTIVE CODE.
FILGEN	
GDACK2	SENDS GD ACK MESSAGE TO LOCAL MPU.
GDSEND2	SEND MESSAGES THAT REQUIRE GUARANTEED DELIVERY PROCESSING.
GETTIM	GET THE SYSTEM TIME AS A BINARY STRING.
GETUSR2	RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL, AND USER NAME.
INICOM2	INITIALIZE AP'S CONNECTION TO THE IISS.
INITAL2	INITIALIZE AP'S CONNECTION TO THE T1V MPU.
INITEX2	INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU.
INITIL2	INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU.
INSTNC2	GET THE SYSGEN INSTANCE NUMBER.
ISEND2	SEND MESSAGE THAT WILL CAUSE THE SPECIFIC INITIATION OF AN AP.
LOGOFF2	SENDS LOGOFF MESSAGE TO THE MONITOR AP.
LOGON2	SENDS LOGON MESSAGE TO THE MONITOR AP.

NTM/SERV Main Program List

Module Name	Purpose
-----	-----
MBXLG2	PURPOSE NOT KNOWN - ACTIVE CODE.
MBXLOG	PURPOSE NOT KNOWN - ACTIVE CODE.
QSEND2	SEND MESSAGES TO OTHER APS IN THE IISS FROM QSERVER AP'S.
RCLE	REMOTE COMPILE AND LINK EXPERT DRIVER
SIGABT2	SIGNAL THE MPU TO ABORT A CHILD AP
SIGERR	CALL SIGERR2
SNDRCLE	REMOTE COMPILE AND LINK EXPERT CALLING SERVICE
TRMNAX	CALL TRMNAX2
TSTMOD	CALL COBOL ROUTINE TSTMOD2
WHTHST	CALL WHTHST2

### 3.10.2 Module List

The following is a list of all the modules being documented here along with their purpose. Each module has a unique name, no matter what language it was written in.

NTM/SERV Module List

Module Name	Purpose
ASCTIM	CALLED BY MPU'S TO GET THE SYSTEM TIME AS AN ASCII STRING.
CHGROL2	CHANGE THE ROLE UNDER WHICH A USER LOGGED ON.
CHKMSG2	TO CHECK FOR MESSAGES FROM OTHER APS IN THE IISS .
ERRAPI	PURPOSE NOT KNOWN - ACTIVE CODE.
FILGEN	
GDACK2	SENDS GD ACK MESSAGE TO LOCAL MPU.
GDSEND2	SEND MESSAGES THAT REQUIRE GUARANTEED DELIVERY PROCESSING.
GETTIM	GET THE SYSTEM TIME AS A BINARY STRING.
GETUSR2	RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL, AND USER NAME.
INICOM2	INITIALIZE AP'S CONNECTION TO THE IISS.
INITAL2	INITIALIZE AP'S CONNECTION TO THE T1V MPU.
INITEX2	INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU.
INITIL2	INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU.
INSTNC2	GET THE SYSGEN INSTANCE NUMBER.
ISEND2	SEND MESSAGE THAT WILL CAUSE THE SPECIFIC INITIATION OF AN AP.
LOGOFF2	SENDS LOGOFF MESSAGE TO THE MONITOR AP.
LOGON2	SENDS LOGON MESSAGE TO THE MONITOR AP.

NTM/SERV Module List

Module Name	Purpose
-----	-----
MBXLG2	PURPOSE NOT KNOWN - ACTIVE CODE.
MBXLOG	PURPOSE NOT KNOWN - ACTIVE CODE.
NSEND2	SEND MESSAGE TO AN AP IN THE IISS.
POSTCOM	
PRECOM	
QSEND2	SEND MESSAGES TO OTHER APS IN THE IISS FROM QSERVER AP'S.
RCLE	REMOTE COMPILE AND LINK EXPERT DRIVER
RCLFILE	
RCV2	RECEIVE MESSAGES FROM OTHER AP'S IN THE IISS .
SIGABT2	SIGNAL THE MPU TO ABORT A CHILD AP
SIGERR	CALL SIGERR2
SIGERR2	SENDS AN ERROR MESSAGE TO MONITOR AND TO ORIGINAL SOURCE.
SNDRCLE	REMOTE COMPILE AND LINK EXPERT CALLING SERVICE
TRMNAT	CALL TRMNAT2
TRMNAT2	TERMINATE AN AP'S CONNECTION TO THE IISS.
TRMNAX	CALL TRMNAX2
TRMNAX2	TERMINATE COMM'S CONNECTION TO THE IISS.
TSTMOD	CALL COBOL ROUTINE TSTMOD2
TSTMOD2	SET/RESET THE TEST-MODE-FLAG.

NTM/SERV Module List

Module Name	Purpose
WHTHST	CALL WHTHST2
WHTHST2	RETURNS THE NAME OF THE HOST ON WHICH AN AP RESIDES.

### 3.10.3 External Routines List

The following is a list of all routines or functions not documented here that are called by modules that are documented here. The first caller, in alphabetical order, is listed as well. The specification in which any module is documented may be found in the Module Documentation Index (Document Number CM 620100001). See section 3.10.6 for a list of the modules that call each of these external routines.

NTM/SERV External Routines List

Module Name	First User
APACCT	WHTHST
CNLTIM	ISEND2
CRTMBX	INICOM2
DELMBX	TRMNAT2
ENDRUN	TRMNAX2
ERRPRO	SIGERR2
GETMSG	RCV2
GETNAM	INITEX2
INITAL	RCLE
ISEND	SNDRCLE
LOCKEF	INITAL2
NSEND	FILGEN
RCV	RCLE
RCVMSG	RCV2
RELEV2	INITIL2
SETTIM	INITEX2
SNDMSG	TRMNAT2
SYS\$ASCTIM	ASCTIM
SYS\$CREPRC	RCLE
SYS\$GETJPI	RCLE
SYS\$GETTIM	GETTIM
WAIT01	INITIL2
WAIT02	QSEND2

### 3.10.4 Include File List

The following is a list of all include files called in by modules being documented here. Each include file has a unique name regardless of the language being used. The purpose of each include file is listed as well. A more complete description of each include file is given in section 3.10.9. The purpose listed is the one that is in the source code of the include file.

A purpose of "\*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*" indicates that a purpose statement was not written into the include file itself. The most common reason for this is that the include file comes from system libraries that were not developed by the project, such as 'C' libraries that are provided with the 'C' compiler.

See section 3.10.6 for a set of lists which show all the modules which call in each of these include files.

NTM/SERV Include File List

File Name	Purpose
-----	-----
ADMSGH	THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.
ALMSGH	SPACES OR 0.
APCNM1	APIS GLOBAL NAME DATA.
APCNM2	SERVICE CODES FOR THE NTM SERVICE ROUTINES.
APIEVB	***** PURPOSE NOT FOUND BY STRIPPER *****
APIINI	FOR INITIATION PURPOSES
APILCL	THE APIS COMMON LOCAL DATA.
APINME	***** PURPOSE NOT FOUND BY STRIPPER *****
BUFAPI	***** PURPOSE NOT FOUND BY STRIPPER *****
COMAPC	PROCESS ERROR INCLUDE FILE
ERRPRO	PROCESS ERROR INCLUDE FILE
INICMD	PROCESS ERROR INCLUDE FILE
MSGSTR	PURPOSE
RETSTR	THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.
SRVCD2	THAT CALL NSEND AND RCV
SRVCDS	SERVICE CODES FOR THE NTM SERVICE ROUTINES.
SRVRET	AS THE RETURN GIVEN A TABLE-FULL ERROR
TSTMDE	SPACES OR 0.

### 3.10.5 Where Include File Used List

The following lists each include file from 3.10.4 and all the modules documented in this specification which include them. The purpose of each module is listed as well.

NTM/SERV Where-include-file-used List

Include File	Module Name	Module Purpose
ADMSGH	TRMNAT2 TRMNAX2	TERMINATE AN AP'S CONNECTION TO THE IISS. TERMINATE COMM'S CONNECTION TO THE IISS.
ALMSGH	INICOM2 INITAL2 INITEX2 INITIL2	INITIALIZE AP'S CONNECTION TO THE IISS. INITIALIZE AP'S CONNECTION TO THE T1V MPU. INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU. INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU.
APCNM1	INITEX2	INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU.
APCNM2	INITAL2 INITIL2	INITIALIZE AP'S CONNECTION TO THE T1V MPU. INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU.
APIEVB	CHGROL2 CHKMSG2 GDACK2	CHANGE THE ROLE UNDER WHICH A USER LOGGED ON. TO CHECK FOR MESSAGES FROM OTHER APS IN THE IISS. SENDS GD ACK MESSAGE TO LOCAL MPU.

NTM/SERV Where-include-file-used List

Include File	Module Name	Module Purpose
	GDSEND2	SEND MESSAGES THAT REQUIRE GUARANTEED DELIVERY PROCESSING.
	GETUSR2	RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL, AND USER NAME.
	INITAL2	INITIALIZE AP'S CONNECTION TO THE T1V MPU.
	INITEX2	INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU.
	INITIL2	INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU.
	ISEND2	SEND MESSAGE THAT WILL CAUSE THE SPECIFIC INITIATION OF AN AP.
	LOGOFF2	SENDS LOGOFF MESSAGE TO THE MONITOR AP.
	LOGON2	SENDS LOGON MESSAGE TO THE MONITOR AP.
	NSEND2	SEND MESSAGE TO AN AP IN THE IISS.
	QSEND2	SEND MESSAGES TO OTHER APS IN THE IISS FROM QSERVER AP'S.
	RCLE	REMOTE COMPILE AND LINK EXPERT DRIVER
	RCV2	RECFIVE MESSAGES FROM OTHER AP'S IN THE IISS .
	SIGABT2	SIGNAL THE MPU TO ABORT A CHILD AP
	SIGERR	CALL SIGERR2
	SIGERR2	SENDS AN ERROR MESSAGE TO MONITOR AND TO ORIGINAL SOURCE.
	TRMNAT	CALL TRMNAT2
	TRMNAT2	TERMINATE AN AP'S CONNECTION TO THE IISS.
	TSTMOD	CALL COBOL ROUTINE TSTMOD2
	WHTHST	CALL WHTHST2
	WHTHST2	RETURNS THE NAME OF THE HOST ON WHICH AN AP RESIDES.
APIINI	INITAL2	INITIALIZE AP'S CONNECTION TO THE T1V MPU.
	INITEX2	INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU.
	INITIL2	INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU.

NTM/SERV Where-include-file-used List

Include File	Module Name	Module Purpose
--------------	-------------	----------------

APILCL

	CHKMSG2	TO CHECK FOR MESSAGES FROM OTHER APS IN THE IISS .
	GDACK2	SENDS GD ACK MESSAGE TO LOCAL MPU.
	GDSEND2	SEND MESSAGES THAT REQUIRE GUARANTEED DELIVERY PROCESSING.
	INITAL2	INITIALIZE AP'S CONNECTION TO THE T1V MPU.
	INITEX2	INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU.
	INITIL2	INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU.
	ISEND2	SEND MESSAGE THAT WILL CAUSE THE SPECIFIC INITIATION OF AN AP.
	NSEND2	SEND MESSAGE TO AN AP IN THE IISS.
	QSEND2	SEND MESSAGES TO OTHER APS IN THE IISS FROM QSERVER AP'S.
	RCLE	REMOTE COMPILE AND LINK EXPERT DRIVER
	RCV2	RECEIVE MESSAGES FROM OTHER AP'S IN THE IISS .
	SIGABT2	SIGNAL THE MPU TO ABORT A CHILD AP
	SIGERR2	SENDS AN ERROR MESSAGE TO MONITOR AND TO ORIGINAL SOURCE.
	TRMNAT2	TERMINATE AN AP'S CONNECTION TO THE IISS.
	TRMNAZ2	TERMINATE COMM'S CONNECTION TO THE IISS.

APINME

	CHGROL2	CHANGE THE ROLE UNDER WHICH A USER LOGGED ON.
	CHKMSG2	TO CHECK FOR MESSAGES FROM OTHER APS IN THE IISS .
	GDACK2	SENDS GD ACK MESSAGE TO LOCAL MPU.
	GDSEND2	SEND MESSAGES THAT REQUIRE GUARANTEED DELIVERY PROCESSING.

NTM/SERV Where-include-file-used List

Include File	Module Name	Module Purpose
	GETUSR2	RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL, AND USER NAME.
	INITAL2	INITIALIZE AP'S CONNECTION TO THE T1V MPU.
	INITEX2	INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU.
	INITIL2	INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU.
	ISEND2	SEND MESSAGE THAT WILL CAUSE THE SPECIFIC INITIATION OF AN AP.
	LOGOFF2	SENDS LOGOFF MESSAGE TO THE MONITOR AP.
	LOGON2	SENDS LOGON MESSAGE TO THE MONITOR AP.
	NSEND2	SEND MESSAGE TO AN AP IN THE IISS.
	QSEND2	SEND MESSAGES TO OTHER APS IN THE IISS FROM QSERVER AP'S.
	RCV2	RECEIVE MESSAGES FROM OTHER AP'S IN THE IISS .
	SIGABT2	SIGNAL THE MPU TO ABORT A CHILD AP
	SIGERR	CALL SIGERR2
	SIGERR2	SENDS AN ERROR MESSAGE TO MONITOR AND TO ORIGINAL SOURCE.
	TRMNAT	CALL TRMNAT2
	TRMNAT2	TERMINATE AN AP'S CONNECTION TO THE IISS.
	WHTHST	CALL WHTHST2
	WHTHST2	RETURNS THE NAME OF THE HOST ON WHICH AN AP RESIDES.
BUFAPI	CHGROL2	CHANGE THE ROLE UNDER WHICH A USER LOGGED ON.
	CHKMSG2	TO CHECK FOR MESSAGES FROM OTHER APS IN THE IISS .
	GDACK2	SENDS GD ACK MESSAGE TO LOCAL MPU.
	GDSEND2	SEND MESSAGES THAT REQUIRE GUARANTEED DELIVERY PROCESSING.
	GETUSR2	RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL, AND USER NAME.
	INITAL2	INITIALIZE AP'S CONNECTION TO THE T1V MPU.

NTM/SERV Where-include-file-used List

Include File	Module Name	Module Purpose
	INITEX2	INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU.
	INITIL2	INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU.
	ISEND2	SEND MESSAGE THAT WILL CAUSE THE SPECIFIC INITIATION OF AN AP.
	LOGOFF2	SENDS LOGOFF MESSAGE TO THE MONITOR AP.
	LOGON2	SENDS LOGON MESSAGE TO THE MONITOR AP.
	NSEND2	SEND MESSAGE TO AN AP IN THE IISS.
	QSEND2	SEND MESSAGES TO OTHER APS IN THE IISS FROM QSERVER AP'S.
	RCV2	RECEIVE MESSAGES FROM OTHER AP'S IN THE IISS .
	SIGABT2	SIGNAL THE MPU TO ABORT A CHILD AP
	SIGERR	CALL SIGERR2
	SIGERR2	SENDS AN ERROR MESSAGE TO MONITOR AND TO ORIGINAL SOURCE.
	WHTHST	CALL WHTHST2
	WHTHST2	RETURNS THE NAME OF THE HOST ON WHICH AN AP RESIDES.

COMAPC	TRMNAX2	TERMINATE COMM'S CONNECTION TO THE IISS.
--------	---------	--

ERRPRO	CHGROL2	CHANGE THE ROLE UNDER WHICH A USER LOGGED ON.
	CHKMSG2	TO CHECK FOR MESSAGES FROM OTHER APS IN THE IISS .
	FILGEN	
	GDACK2	SENDS GD ACK MESSAGE TO LOCAL MPU.
	GDSEND2	SEND MESSAGES THAT REQUIRE GUARANTEED DELIVERY PROCESSING.

NTM/SERV Where-include-file-used List

Include File	Module Name	Module Purpose
	GETUSR2	RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL, AND USER NAME.
	INICOM2	INITIALIZE AP'S CONNECTION TO THE IISS.
	INITAL2	INITIALIZE AP'S CONNECTION TO THE T1V MPU.
	INITEX2	INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU.
	INITIL2	INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU.
	ISEND2	SEND MESSAGE THAT WILL CAUSE THE SPECIFIC INITIATION OF AN AP.
	LOGOFF2	SENDS LOGOFF MESSAGE TO THE MONITOR AP.
	LOGON2	SENDS LOGON MESSAGE TO THE MONITOR AP.
	NSEND2	SEND MESSAGE TO AN AP IN THE IISS.
	QSEND2	SEND MESSAGES TO OTHER APS IN THE IISS FROM QSERVER AP'S.
	RCLE	REMOTE COMPILE AND LINK EXPERT DRIVER
	RCV2	RECEIVE MESSAGES FROM OTHER AP'S IN THE IISS.
	SIGABT2	SIGNAL THE MPU TO ABORT A CHILD AP
	SIGERR2	SENDS AN ERROR MESSAGE TO MONITOR AND TO ORIGINAL SOURCE.
	TRMNAT2	TERMINATE AN AP'S CONNECTION TO THE IISS.
	TRMNAX2	TERMINATE COMM'S CONNECTION TO THE IISS.
	WHTHST2	RETURNS THE NAME OF THE HOST ON WHICH AN AP RESIDES.
INICMD	INICOM2	INITIALIZE AP'S CONNECTION TO THE IISS.
MSGSTR	CHKMSG2	TO CHECK FOR MESSAGES FROM OTHER APS IN THE IISS.
	GDSEND2	SEND MESSAGES THAT REQUIRE GUARANTEED DELIVERY PROCESSING.

NTM/SERV Where-include-file-used List

Include File	Module Name	Module Purpose
	ISEND2	SEND MESSAGE THAT WILL CAUSE THE SPECIFIC INITIATION OF AN AP.
	NSEND2	SEND MESSAGE TO AN AP IN THE IISS.
	QSEND2	SEND MESSAGES TO OTHER APS IN THE IISS FROM QSERVER AP'S.
	RCV2	RECEIVE MESSAGES FROM OTHER AP'S IN THE IISS .

RETSTR

	CHGROL2	CHANGE THE ROLE UNDER WHICH A USER LOGGED ON.
	CHKMSG2	TO CHECK FOR MESSAGES FROM OTHER APS IN THE IISS .
	GDACK2	SENDS GD ACK MESSAGE TO LOCAL MPU.
	GDSEND2	SEND MESSAGES THAT REQUIRE GUARANTEED DELIVERY PROCESSING.
	GETUSR2	RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL, AND USER NAME.
	INITAL2	INITIALIZE AP'S CONNECTION TO THE T1V MPU.
	INITEX2	INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU.
	INITIL2	INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU.
	ISEND2	SEND MESSAGE THAT WILL CAUSE THE SPECIFIC INITIATION OF AN AP.
	LOGOFF2	SENDS LOGOFF MESSAGE TO THE MONITOR AP.
	LOGON2	SENDS LOGON MESSAGE TO THE MONITOR AP.
	NSEND2	SEND MESSAGE TO AN AP IN THE IISS.
	QSEND2	SEND MESSAGES TO OTHER APS IN THE IISS FROM QSERVER AP'S.
	RCLE	REMOTE COMPILE AND LINK EXPERT DRIVER
	RCV2	RECEIVE MESSAGES FROM OTHER AP'S IN THE IISS .
	SIGABT2	SIGNAL THE MPU TO ABORT A CHILD AP
	SIGERR2	SENDS AN ERROR MESSAGE TO MONITOR AND TO ORIGINAL SOURCE.
	TRMNAT2	TERMINATE AN AP'S CONNECTION TO THE IISS.

NTM/SERV Where-include-file-used List

Include File	Module Name	Module Purpose
	TRMNAX2	TERMINATE COMM'S CONNECTION TO THE IISS.
	WHTHST2	RETURNS THE NAME OF THE HOST ON WHICH AN AP RESIDES.
SRVCD2	CHGROL2	CHANGE THE ROLE UNDER WHICH A USER LOGGED ON.
	GDACK2	SENDS GD ACK MESSAGE TO LOCAL MPU.
	GETUSR2	RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL, AND USER NAME.
	LOGOFF2	SENDS LOGOFF MESSAGE TO THE MONITOR AP.
	LOGON2	SENDS LOGON MESSAGE TO THE MONITOR AP.
	SIGABT2	SIGNAL THE MPU TO ABORT A CHILD AP
	SIGERR2	SENDS AN ERROR MESSAGE TO MONITOR AND TO ORIGINAL SOURCE.
	TSTMOD2	SET/RESET THE TEST-MODE-FLAG.
	WHTHST2	RETURNS THE NAME OF THE HOST ON WHICH AN AP RESIDES.
SRVCDS	CHKMSG2	TO CHECK FOR MESSAGES FROM OTHER APS IN THE IISS .
	GDSEND2	SEND MESSAGES THAT REQUIRE GUARANTEED DELIVERY PROCESSING.
	INITAL2	INITIALIZE AP'S CONNECTION TO THE T1V MPU.
	INITEX2	INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU.
	INITIL2	INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU.
	ISEND2	SEND MESSAGE THAT WILL CAUSE THE SPECIFIC INITIATION OF AN AP.
	NSEND2	SEND MESSAGE TO AN AP IN THE IISS.
	QSEND2	SEND MESSAGES TO OTHER APS IN THE IISS FROM QSERVER AP'S.

NTM/SERV Where-include-file-used List

Include File	Module Name	Module Purpose
	RCV2	RECEIVE MESSAGES FROM OTHER AP'S IN THE IISS .
	TRMNAT2	TERMINATE AN AP'S CONNECTION TO THE IISS.
	TRMNAX2	TERMINATE COMM'S CONNECTION TO THE IISS.

SRVRET

	CHGROL2	CHANGE THE ROLE UNDER WHICH A USER LOGGED ON.
	FILGEN	SENDS GD ACK MESSAGE TO LOCAL MPU.
	GDACK2	RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL, AND USER NAME.
	GETUSR2	
	LOGOFF2	SENDS LOGOFF MESSAGE TO THE MONITOR AP.
	LOGON2	SENDS LOGON MESSAGE TO THE MONITOR AP.
	RCLE	REMOTE COMPILE AND LINK EXPERT DRIVER
	SIGABT2	SIGNAL THE MPU TO ABORT A CHILD AP
	SIGERR2	SENDS AN ERROR MESSAGE TO MONITOR AND TO ORIGINAL SOURCE.
	SNDRCLE	REMOTE COMPILE AND LINK EXPERT CALLING SERVICE
	WHTHST2	RETURNS THE NAME OF THE HOST ON WHICH AN AP RESIDES.

TSTMDE

	CHKMSG2	TO CHECK FOR MESSAGES FROM OTHER APS IN THE IISS .
	GETUSR2	RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL, AND USER NAME.
	INITAL2	INITIALIZE AP'S CONNECTION TO THE T1V MPU.
	INITEX2	INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU.
	INITIL2	INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU.
	LOGON2	SENDS LOGON MESSAGE TO THE MONITOR AP.

NTM/SERV Where-include-file-used List

Include File	Module Name	Module Purpose
-----	-----	-----
	RCV2	RECEIVE MESSAGES FROM OTHER AP'S IN THE IISS .
	SIGABT2	SIGNAL THE MPU TO ABORT A CHILD AP
	TSTMOD2	SET/RESET THE TEST-MODE-FLAG.
	WHTHST2	RETURNS THE NAME OF THE HOST ON WHICH AN AP RESIDES.

### 3.10.6 Where External Routine Used List

The following lists each external function or routine listed in 3.10.3 and all the documented modules which call it. The purpose of each module is listed as well.

NTM/SERV Where-external-routine-used List

System Module	Module Name	Module Purpose
-----	-----	-----
APACCT	SIGERR TRMNAT TRMNAX TSTMOD WHTHST	CALL SIGERR2 CALL TRMNAT2 CALL TRMNAX2 CALL COBOL ROUTINE TSTMOD2 CALL WHTHST2
CNLTIM	GDSEND2 ISEND2 NSEND2 QSEND2	SEND MESSAGES THAT REQUIRE GUARANTEED DELIVERY PROCESSING. SEND MESSAGE THAT WILL CAUSE THE SPECIFIC INITIATION OF AN AP. SEND MESSAGE TO AN AP IN THE IISS. SEND MESSAGES TO OTHER APS IN THE IISS FROM QSERVER AP'S.
CRTMBX	INICOM2 INITAL2 INITEX2 INITIL2	INITIALIZE AP'S CONNECTION TO THE IISS. INITIALIZE AP'S CONNECTION TO THE T1V MPU. INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU. INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU.
DELMBX	INITAL2 INITEX2 INITIL2 TRMNAT2	INITIALIZE AP'S CONNECTION TO THE T1V MPU. INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU. INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU. TERMINATE AN AP'S CONNECTION TO THE IISS.

NTM/SERV Where-external-routine-used List

System Module	Module Name	Module Purpose
ENDRUN	TRMNAT2 TRMNA2	TERMINATE AN AP'S CONNECTION TO THE IISS. TERMINATE COMM'S CONNECTION TO THE IISS.
ERRPRO	CHGROL2 CHKMSG2 FILGEN GDACK2 GDSEND2 GETUSR2 INICOM2 INITAL2 INITEX2 INITIL2 ISEND2 LOGOFF2 LOGON2 NSEND2 QSEND2 RCLE RCV2 SIGABT2 SIGERR2 TRMNAT2 TRMNA2 WHTHST2	CHANGE THE ROLE UNDER WHICH A USER LOGGED ON. TO CHECK FOR MESSAGES FROM OTHER APS IN THE IISS . SENDS GD ACK MESSAGE TO LOCAL MPU. SEND MESSAGES THAT REQUIRE GUARANTEED DELIVERY PROCESSING. RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL, AND USER NAME. INITIALIZE AP'S CONNECTION TO THE IISS. INITIALIZE AP'S CONNECTION TO THE T1V MPU. INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU. INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU. SEND MESSAGE THAT WILL CAUSE THE SPECIFIC INITIATION OF AN AP. SENDS LOGOFF MESSAGE TO THE MONITOR AP. SENDS LOGON MESSAGE TO THE MONITOR AP. SEND MESSAGE TO AN AP IN THE IISS. SEND MESSAGES TO OTHER APS IN THE IISS FROM QSERVER AP'S. REMOTE COMPILE AND LINK EXPERT DRIVER RECEIVE MESSAGES FROM OTHER AP'S IN THE IISS . SIGNAL THE MPU TO ABORT A CHILD AP SENDS AN ERROR MESSAGE TO MONITOR AND TO ORIGINAL SOURCE. TERMINATE AN AP'S CONNECTION TO THE IISS. TERMINATE COMM'S CONNECTION TO THE IISS. RETURNS THE NAME OF THE HOST ON WHICH AN AP RESIDES.

NTM/SERV Where-external-routine-used List

System Module	Module Name	Module Purpose
GETMSG	CHKMSG2	TO CHECK FOR MESSAGES FROM OTHER APS IN THE IISS .
	GDSEND2	SEND MESSAGES THAT REQUIRE GUARANTEED DELIVERY PROCESSING.
	INICOM2	INITIALIZE AP'S CONNECTION TO THE IISS.
	INITAL2	INITIALIZE AP'S CONNECTION TO THE T1V MPU.
	INITEX2	INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU.
	INITIL2	INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU.
	ISEND2	SEND MESSAGE THAT WILL CAUSE THE SPECIFIC INITIATION OF AN AP.
	NSEND2	SEND MESSAGE TO AN AP IN THE IISS.
	QSEND2	SEND MESSAGES TO OTHER APS IN THE IISS FROM QSERVER AP'S.
	RCV2	RECEIVE MESSAGES FROM OTHER AP'S IN THE IISS .
GETNAM	INICOM2	INITIALIZE AP'S CONNECTION TO THE IISS.
	INITAL2	INITIALIZE AP'S CONNECTION TO THE T1V MPU.
	INITEX2	INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU.
	INITIL2	INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU.
	MBXLOG	PURPOSE NOT KNOWN - ACTIVE CODE.
	TRMNX2	TERMINATE COMM'S CONNECTION TO THE IISS.
INITAL	RCLE	REMOTE COMPILE AND LINK EXPERT DRIVER

NTM/SERV Where-external-routine-used List

System Module	Module Name	Module Purpose
ISEND	SNDRCLE	REMOTE COMPILE AND LINK EXPERT CALLING SERVICE
LOCKEF	INITAL2	INITIALIZE AP'S CONNECTION TO THE T1V MPU.
NSEND	FILGEN RCLE	REMOTE COMPILE AND LINK EXPERT DRIVER
RCV	FILGEN RCLE	REMOTE COMPILE AND LINK EXPERT DRIVVER
RCVMSG	CHKMSG2	TO CHECK FOR MESSAGES FROM OTHER APS IN THE IISS .
	GDSEND2	SEND MESSAGES THAT REQUIRE GUARANTEED DELIVERY PROCESSING.
	INICOM2	INITIALIZE AP'S CONNECTION TO THE IISS.
	INITAL2	INITIALIZE AP'S CONNECTION TO THE T1V MPU.
	INITEX2	INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU.
	INITIL2	INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU.
	ISEND2	SEND MESSAGE THAT WILL CAUSE THE SPECIFIC INITIATION OF AN AP.
	NSEND2	SEND MESSAGE TO AN AP IN THE IISS.

NTM/SERV Where-external-routine-used List

System	Module	Module
Module	Name	Purpose
	QSEND2	SEND MESSAGES TO OTHER APS IN THE IISS FROM QSERVER AP'S.
	RCV2	RECEIVE MESSAGES FROM OTHER AP'S IN THE IISS .
RELEV2	GDSEND2	SEND MESSAGES THAT REQUIRE GUARANTEED DELIVERY PROCESSING.
	INITAL2	INITIALIZE AP'S CONNECTION TO THE T1V MPU.
	INITIL2	INITIALIZE AN AP'S CONNECTION TO AN AF SELECTED MPU.
	ISEND2	SEND MESSAGE THAT WILL CAUSE THE SPECIFIC INITIATION OF AN AP.
	NSEND2	SEND MESSAGE TO AN AP IN THE IISS.
	QSEND2	SEND MESSAGES TO OTHER APS IN THE IISS FROM QSERVER AP'S.
	TRMNAT2	TERMINATE AN AP'S CONNECTION TO THE IISS.
	TRMNAX2	TERMINATE COMM'S CONNECTION TO THE IISS.
SETTIM	GDSEND2	SEND MESSAGES THAT REQUIRE GUARANTEED DELIVERY PROCESSING.
	INICOM2	INITIALIZE AP'S CONNECTION TO THE IISS.
	INITAL2	INITIALIZE AP'S CONNECTION TO THE T1V MPU.
	INITEX2	INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU.
	INITIL2	INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU.
	ISEND2	SEND MESSAGE THAT WILL CAUSE THE SPECIFIC INITIATION OF AN AP.
	NSEND2	SEND MESSAGE TO AN AP IN THE IISS.
	QSEND2	SEND MESSAGES TO OTHER APS IN THE IISS FROM QSERVER AP'S.
	RCLE	REMOTE COMPILE AND LINK EXPERT DRIVER
	TRMNAT2	TERMINATE AN AP'S CONNECTION TO THE IISS.
	TRMNAX2	TERMINATE COMM'S CONNECTION TO THE IISS.

NTM/SERV Where-external-routine-used List

System Module	Module Name	Module Purpose
SNDMSG	GDSEND2	SEND MESSAGES THAT REQUIRE GUARANTEED DELIVERY PROCESSING.
	INICOM2	INITIALIZE AP'S CONNECTION TO THE IISS.
	INITAL2	INITIALIZE AP'S CONNECTION TO THE T1V MPU.
	INITEX2	INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU.
	INITIL2	INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU.
	ISEND2	SEND MESSAGE THAT WILL CAUSE THE SPECIFIC INITIATION OF AN AP.
	NSEND2	SEND MESSAGE TO AN AP IN THE IISS.
	QSEND2	SEND MESSAGES TO OTHER APS IN THE IISS FROM QSERVER AP'S.
	TRMNAT2	TERMINATE AN AP'S CONNECTION TO THE IISS.
	TRMNAX2	TERMINATE COMM'S CONNECTION TO THE IISS.
SYS\$ASCTIM	ASCTIM	CALLED BY MPU'S TO GET THE SYSTEM TIME AS AN ASCII STRING.
SYS\$CREPRC	RCLE	REMOTE COMPILE AND LINK EXPERT DRIVER
SYS\$GETJPI	RCLE	REMOTE COMPILE AND LINK EXPERT DRIVER
SYS\$GETTIM		

NTM/SERV Where-external-routine-used List

System Module	Module Name	Module Purpose
-----	-----	-----
	ASCTIM	CALLED BY MPU'S TO GET THE SYSTEM TIME AS AN ASCII STRING.
	GETTIM	GET THE SYSTEM TIME AS A BINARY STRING.
WAIT01	GDSEND2	SEND MESSAGES THAT REQUIRE GUARANTEED DELIVERY PROCESSING.
	INICOM2	INITIALIZE AP'S CONNECTION TO THE IISS.
	INITAL2	INITIALIZE AP'S CONNECTION TO THE T1V MPU.
	INITEX2	INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU.
	INITIL2	INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU.
	ISEND2	SEND MESSAGE THAT WILL CAUSE THE SPECIFIC INITIATION OF AN AP.
	NSEND2	SEND MESSAGE TO AN AP IN THE IISS.
	QSEND2	SEND MESSAGES TO OTHER APS IN THE IISS FROM QSERVER AP'S.
	RCLE	REMOTE COMPILE AND LINK EXPERT DRIVER
	RCV2	RECEIVE MESSAGES FROM OTHER AP'S IN THE IISS.
	TRMNAT2	TERMINATE AN AP'S CONNECTION TO THE IISS.
	TRMNAZ2	TERMINATE COMM'S CONNECTION TO THE IISS.
WAIT02	GDSEND2	SEND MESSAGES THAT REQUIRE GUARANTEED DELIVERY PROCESSING.
	INICOM2	INITIALIZE AP'S CONNECTION TO THE IISS.
	INITAL2	INITIALIZE AP'S CONNECTION TO THE T1V MPU.
	INITEX2	INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU.
	INITIL2	INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU.
	ISEND2	SEND MESSAGE THAT WILL CAUSE THE SPECIFIC INITIATION OF AN AP.
	NSEND2	SEND MESSAGE TO AN AP IN THE IISS.

NTM/SERV Where-external-routine-used List

System Module	Module Name	Module Purpose
-----	-----	-----
	QSEND2	SEND MESSAGES TO OTHER APS IN THE IISS FROM QSERVER AP'S.
	RCV2	RECEIVE MESSAGES FROM OTHER AP'S IN THE IISS .

### 3.10.7 Main Program Parts List

The following lists each Main Program listed in 3.10.1 and all the modules which are called either by that module itself or by any of the documented modules which it calls. It is possible for a non-main module to be listed more than once if it is called by multiple modules. The called modules, in this case known as program parts, are marked as to whether they are documented here. If so, the phrase "well-defined module" appears by the module name, if not it is an "external "routine". The Purpose of the Main Program module is listed as well.

NTM/SERV Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
ASCTIM	Purpose-->CALLED BY MPU'S TO GET THE SYSTEM TIME AS AN ASCII STRING.	
SYSSASCTIM	External routine	
SYSSGETTIM	External routine	

NTM/SERV Main Program Parts List

Main Pgm Name	Module Name	Module Type
CHGROL2		Purpose-->CHANGE THE ROLE UNDER WHICH A USER LOGGED ON.
CNLTIM		External routine
ERRPRO		External routine
GETMSG		External routine
NSEND2		Well-defined module
RCVMSG		External routine
RELEV8		External routine
SETTIM		External routine
SNDMSG		External routine
WAIT01		External routine
WAIT02		External routine

NTM/SERV Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
CHKMSG2		Purpose-->TO CHECK FOR MESSAGES FROM OTHER APS IN THE IISS .
ERRPRO		External routine
GETMSG		External routine
RCVMSG		External routine

NTM/SERV Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
FILGEN	Purpose-->	
	ERRPRO	External routine
	NSEND	External routine
	RCV	External routine

NTM/SERV Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
GDACK2		Purpose-->SENDS GD ACK MESSAGE TO LOCAL MPU.
CNLTIM		External routine
ERRPRO		External routine
GETMSG		External routine
NSEND2		Well-defined module
RCVMSG		External routine
RELEVB		External routine
SETTIM		External routine
SNDMSG		External routine
WAIT01		External routine
WAIT02		External routine

NTM/SERV Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
GDSEND2	Purpose-->SEND MESSAGES THAT REQUIRE GUARANTEED DELIVERY PROCESSING.	
CNLTIM	External routine	
ERRPRO	External routine	
GETMSG	External routine	
RCVMSG	External routine	
RELEVVB	External routine	
SETTIM	External routine	
SNDMSG	External routine	
WAIT01	External routine	
WAIT02	External routine	

NTM/SERV Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
GETTIM	Purpose-->GET THE SYSTEM TIME AS A BINARY STRING.	
SYS\$GETTIM		External routine

NTM/SERV Main Program Parts List

Main Pgm Name	Module Name	Module Type
GETUSR2		Purpose-->RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL, AND USER NAME.
CNLTIM		External routine
ERRPRO		External routine
GETMSG		External routine
NSEND2		Well-defined module
RCV2		Well-defined module
RCVMSG		External routine
RELEV2		External routine
SETTIM		External routine
SNDMSG		External routine
WAIT01		External routine
WAIT02		External routine

NTM/SERV Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
INICOM2		Purpose-->INITIALIZE AP'S CONNECTION TO THE IISS.
CRTMBX		External routine
ERRPRO		External routine
GETMSG		External routine
GETNAM		External routine
RCVMSG		External routine
SETTJM		External routine
SNDMSG		External routine
WAIT01		External routine
WAIT02		External routine

NTM/SERV Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
INITAL2	Purpose-->	INITIALIZE AP'S CONNECTION TO THE T1V MPU.
CRTMBX		External routine
DELMBX		External routine
ERRPRO		External routine
GETMSG		External routine
GETNAM		External routine
LOCKEF		External routine
RCVMSG		External routine
RELEV8		External routine
SETTIM		External routine
SNDMSG		External routine
WAIT01		External routine
WAIT02		External routine

NTM/SERV Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
INITEX2	Purpose-->	INITIALIZE UI LIKE AP'S CONNECTION TO THE UIV MPU.
CRTMBX		External routine
DELMBX		External routine
ERRPRO		External routine
GETMSG		External routine
GETNAM		External routine
RCVMSG		External routine
SETTIM		External routine
SNDMSG		External routine
WAIT01		External routine
WAIT02		External routine

NTM/SERV Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
INITIL2	Purpose-->INITIALIZE AN AP'S CONNECTION TO AN AP SELECTED MPU.	
CRTMBX	External routine	
DELMBX	External routine	
ERRPRO	External routine	
GETMSG	External routine	
GETNAM	External routine	
RCVMSG	External routine	
RELEV8	External routine	
SETTIM	External routine	
SNDMSG	External routine	
WAIT01	External routine	
WAIT02	External routine	

NTM/SERV Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
ISEND2	Purpose-->SEND MESSAGE THAT WILL CAUSE THE SPECIFIC INITIATION OF AN AP.	
CNLTIM	External routine	
ERRPRO	External routine	
GETMSG	External routine	
RCVMSG	External routine	
RELEVB	External routine	
SETTIM	External routine	
SNDMSG	External routine	
WAIT01	External routine	
WAIT02	External routine	

NTM/SERV Main Program Parts List

Main Pgm Name	Module Name	Module Type
LOGOFF2	Purpose-->	SENDS LOGOFF MESSAGE TO THE MONITOR AP.
CNLTIM		External routine
ERRPRO		External routine
GETMSG		External routine
NSEND2		Well-defined module
RCVMSG		External routine
RELEV8		External routine
SETTIM		External routine
SNDMSG		External routine
WAIT01		External routine
WAIT02		External routine

NTM/SERV Main Program Parts List

Main Pgm Name	Module Name	Module Type
LOGON2	Purpose-->	SENDS LOGON MESSAGE TO THE MONITOR AP.
CNLTIM		External routine
ERRPRO		External routine
GETMSG		External routine
NSEND2		Well-defined module
RCV2		Well-defined module
RCVMSG		External routine
RELEV2		External routine
SETTIM		External routine
SNDMSG		External routine
WAIT01		External routine
WAIT02		External routine

NTM/SERV Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
MBXLOG		Purpose-->PURPOSE NOT KNOWN - ACTIVE CODE.
	GETNAM	External routine

NTM/SERV Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
QSEND2	Purpose-->	SEND MESSAGES TO OTHER APS IN THE IISS FROM QSERVER AP'S.
CNLTIM		External routine
ERRPRO		External routine
GETMSG		External routine
RCVMSG		External routine
RELEV8		External routine
SETTIM		External routine
SNDMSG		External routine
WAIT01		External routine
WAIT02		External routine

NTM/SERV Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
RCLE	Purpose-->REMOTE COMPILE AND LINK EXPERT DRIVER	
APACCT	External routine	
DELMBX	External routine	
ENDRUN	External routine	
ERRPRO	External routine	
INITAL	External routine	
NSEND	External routine	
POSTCOM	Well-defined module	
PRECOM	Well-defined module	
RCLFILE	Well-defined module	
RCV	External routine	
RELEVB	External routine	
SETTIM	External routine	
SNDMSG	External routine	
SYSS\$CREPRC	External routine	
SYSS\$GETJPI	External routine	
TRMNAT	Well-defined module	
TRMNAT2	Well-defined module	
WAIT01	External routine	

NTM/SERV Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
SIGABT2	Purpose-->SIGNAL THE MPU TO ABORT A CHILD	
	AP	
CNLTIM	External routine	
ERRPRO	External routine	
GETMSG	External routine	
NSEND2	Well-defined module	
RCVMSG	External routine	
RELEV8	External routine	
SETTIM	External routine	
SNDMSG	External routine	
WAIT01	External routine	
WAIT02	External routine	

NTM/SERV Main Program Parts List

Main Pgm Name	Module Name	Module Type
SIGERR		Purpose-->CALL SIGERR2
	APACCT	External routine
	CNLTIM	External routine
	ERRPRO	External routine
	GETMSG	External routine
	NSEND2	Well-defined module
	RCVMSG	External routine
	RELEVB	External routine
	SETTIM	External routine
	SIGERR2	Well-defined module
	SNDMSG	External routine
	WAIT01	External routine
	WAIT02	External routine

NTM/SERV Main Program Parts List

Main Pgm Name	Module Name	Module Type
SNDRCLE		Purpose-->REMOTE COMPILE AND LINK EXPERT CALLING SERVICE
ISEND		External routine

NTM/SERV Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
TRMNAX	Purpose-->CALL TRMNAX2	
APACCT	External routine	
ENDRUN	External routine	
ERRPRO	External routine	
GETNAM	External routine	
RELEV8	External routine	
SETTIM	External routine	
SNDMSG	External routine	
TRMNAX2	Well-defined module	
WAIT01	External routine	

NTM/SERV Main Program Parts List

Main Pgm Name	Module Name	Module Type
TSTMOD	APACCT	Purpose-->CALL COBOL ROUTINE TSTMOD2
	TSTMOD2	External routine
		Well-defined module

NTM/SERV Main Program Parts List

Main Pgm Name	Module Name	Module Type
-----	-----	-----
WHTHST		Purpose-->CALL WHTHST2
	APACCT	External routine
	CNLTIM	External routine
	ERRPRO	External routine
	GETMSG	External routine
	NSEND2	Well-defined module
	RCV2	Well-defined module
	RCVMSG	External routine
	RELEV2	External routine
	SETTIM	External routine
	SNDMSG	External routine
	WAIT01	External routine
	WAIT02	External routine
	WHTHST2	Well-defined module

### 3.10.8 Module Documentation

The following documentation describes information which is specific to each individual module being documented in this specification as listed in section 3.10.2. It provides a compact way of getting information that would be otherwise buried within each module's source code.

The specific items in this module documentation have the following meanings:

NAME:	Name of program Module.
PURPOSE:	Purpose of Module as detailed in the source code.
LANGUAGE:	Programming language source code is written in. The choices are:
	VAX-11 FORTRAN C (I/S-1 Workbench 'C') VAX-11 COBOL
MODULE TYPE:	Whether a Program, Subroutine, or Function.
SOURCE FILE:	Name of Source File from file specification.
SOURCE FILE TYPE:	Source File Extension from file specification.
HOST:	Whether this is a host-dependent routine (VAX or IBM) or blank if host-independent.
SUBSYSTEM:	IISS sub-system this file resides in.
SUBDIRECTORY:	Sub-directory of that subsystem in which this file resides.
DOCUMENTATION GROUP:	Name of documentation group of which this source file is a member.
DESCRIPTION:	A description of the module as obtained from the source code.
ARGUMENTS:	The arguments with which this routine is called if it is a Subroutine or a Function.
INCLUDE FILES:	A list of all the files that are included into this module as well as their purposes.

ROUTINES CALLED: Subroutines or Functions, either documented or external, called by this module, if any.

CALLED DIRECTLY BY: The documented routines which call this module, if any.

USED IN MAIN PROGRAM(S): The documented Main Programs which contain this module in their parts list according to the list in section 3.10.7.

The Module Documentation is arranged alphabetically according to Module Name.

NTM/SERV Module Documentation

NAME: ASCTIM  
PURPOSE: CALLED BY MPU'S TO GET THE SYSTEM TIME AS  
AN ASCII STRING.  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: ASCTIM  
SOURCE FILE TYPE: .COB  
HOST: VAX  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

- CALLS VMS SERVICES: SYS\$GETTIM

SYS\$ASCTIM

ARGUMENTS:

TIME-STRING = DSPLY [X(23)]  
NTM-RETURN = DSPLY [X(5)]  
SS-STATUS = DSPLY [S9(9)]

ROUTINES CALLED:

SYS\$GETTIM  
SYS\$ASCTIM

## NTM/SERV Module Documentation

NAME: CHGROL2  
PURPOSE: CHANGE THE ROLE UNDER WHICH A USER LOGGED ON.  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: CHGROL2  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

### DESCRIPTION:

-----

-

### ARGUMENTS:

-----

TERMINAL-ID = DSPLY [X(3)]  
USER-NAME = DSPLY [X(8)]  
ROLE-NAME = DSPLY [X(10)]  
RTN-CODE = DSPLY [X(5)]  
API-GLOBAL-NAME-SEC = RECRD  
API-GLOBAL-BUFFER-SEC = RECRD  
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]  
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]  
SEND-EVENT-BLK = DSPLY [X(2032)]  
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]  
TIMER-EVENT-BLK = DSPLY [X(80)]

### INCLUDE FILES:

-----

SRVRET - AS THE RETURN GIVEN A TABLE-FULL ERROR  
RETSTR - THE APIs COMMON LOCAL DATA FOR ERROR-RETURNS.  
SRVCD2 - THAT CALL NSEND AND RCV  
APINME - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
BUFAPI - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
APIEVB - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
ERRPRO - PROCESS ERROR INCLUDE FILE

### ROUTINES CALLED:

-----

NSEND2 - SEND MESSAGE TO AN AP IN THE TISS.  
ERRPRO

## NTM/SERV Module Documentation

NAME: CHKMSG2  
PURPOSE: TO CHECK FOR MESSAGES FROM OTHER APS IN  
THE IISS .  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: CHKMSG2  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:  
-----

-

### ARGUMENTS:

-----  
LOGICAL-CHANNEL = DSPLY [X(3)]  
MSG-SOURCE = DSPLY [X(10)]  
ACCEPT-STATUS = DSPLY [X(5)]  
API-GLOBAL-NAME-SEC = RECRD  
API-GLOBAL-BUFFER-SEC = RECRD  
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]  
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]  
SEND-EVENT-BLK = DSPLY [X(2032)]  
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]  
TIMER-EVENT-BLK = DSPLY [X(80)]  
TEST-MODE-FLAG = DSPLY [X]

### INCLUDE FILES:

-----  
MSGSTR - PURPOSE  
APILCL - THE APIS COMMON LOCAL DATA.  
SRVCDS - SERVICE CODES FOR THE NTM SERVICE ROUTINES.  
RETSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.  
APINME - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
BUFAPI - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
APIEVB - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
TSTMDE - SPACES OR 0.  
ERRPRO - PROCESS ERROR INCLUDE FILE

### ROUTINES CALLED:

-----  
RCVMSG  
GETMSG  
ERRPRO

NTM/SERV Module Documentation

NAME: ERRAPI  
PURPOSE: PURPOSE NOT KNOWN - ACTIVE CODE.  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: ERRAPI  
SOURCE FILE TYPE: .COB  
HOST: VAX  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

-----

-

ARGUMENTS:

-----  
CALL-NAME = DSPLY [X(6)]  
ROUTINE-NAME = DSPLY [X(8)]  
RET-CODE = DSPLY [X(5)]  
SS-STATUS = DSPLY [S9(9)]

NTM/SERV Module Documentation

NAME: FILGEN  
PURPOSE:  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: FILGEN  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

-----  
-  
THE PURPOSE OF THIS ROUTINE IS TO ACT AS A  
GENERALIZED INTERFACE TO THE FILE NAME  
QUEUE SERVER.  
mod for release 2.0 to return a ret-status  
WILL ASK FOR AND RECEIVE A BLOCK OF 20 NAMES  
AND HAND THEM OUT TO A CALLER 1 AT A TIME.  
IF INUT-HOST NAME IS BLANK, THEN USE THE  
CURRENT HOST AND PASS IT BACK TO THE CALLER.  
COPY OF GENFIL RENAMED AS FILGEN FOR USE IN NTM.

ARGUMENTS:

-----  
FILE-HOST = DSPLY [XXX]

INCLUDE FILES:

-----  
SRVRET - AS THE RETURN GIVEN A TABLE-FULL ERROR  
ERRPRO - PROCESS ERROR INCLUDE FILE

ROUTINES CALLED:

-----  
NSEND  
RCV  
ERRPRO

## NTM/SERV Module Documentation

NAME: GDACK2  
PURPOSE: SENDS GD ACK MESSAGE TO LOCAL MPU.  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: GDACK2  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

### DESCRIPTION:

-----  
SENDS GD ACK MESSAGE TO LOCAL MPU. THIS INFORMS  
THE MPU THAT THE AP HAS ACCEPTED THE GD MESSAGE.

-

### ARGUMENTS:

-----  
MESSAGE-SERIAL-NUMBER = DSPLY [X(7)]  
RETCODE = DSPLY [X(5)]  
API-GLOBAL-NAME-SEC = RECRD  
API-GLOBAL-BUFFER-SEC = RECRD  
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]  
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]  
SEND-EVENT-BLK = DSPLY [X(2032)]  
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]  
TIMER-EVENT-BLK = DSPLY [X(80)]

### INCLUDE FILES:

-----  
SRVRET - AS THE RETURN GIVEN A TABLE-FULL ERROR  
SRVCD2 - THAT CALL NSEND AND RCV  
RETSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.  
APILCL - THE APIS COMMON LOCAL DATA.  
APINME - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
BUFAPI - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
APIEVB - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
ERRPRO - PROCESS ERROR INCLUDE FILE

### ROUTINES CALLED:

-----  
NSEND2 - SEND MESSAGE TO AN AP IN THE LIST.  
ERRPRO

## NTM/SERV Module Documentation

NAME: GDSEND2  
PURPOSE: SEND MESSAGES THAT REQUIRE GUARANTEED  
DELIVERY PROCESSING.  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: GDSEND2  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:  
-----

### ARGUMENTS:

-----  
DSTINATION = DSPLY [X(10)]  
LOGICAL-CHANNEL = DSPLY [X(3)]  
TIMEOUT-VALUE = DSPLY [X(15)]  
DATA-TYPE = DSPLY [X]  
MESSAGE-TYPE = DSPLY [X(2)]  
SEND-SIZE = DSPLY [9(5)]  
USER-DATA = RECRD  
ACCEPT-STATUS = DSPLY [X(5)]  
MESSAGE-SERIAL-NUMBER = DSPLY [X(7)]  
API-GLOBAL-NAME-SEC = RECRD  
API-GLOBAL-BUFFER-SEC = RECRD  
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]  
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]  
SEND-EVENT-BLK = DSPLY [X(2032)]  
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]  
TIMER-EVENT-BLK = DSPLY [X(80)]

### INCLUDE FILES:

-----  
MSGSTR - PURPOSE  
APILCL - THE APIS COMMON LOCAL DATA.  
SRVCDS - SERVICE CODES FOR THE NTM SERVICE ROUTINES.  
RETSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.  
APINME - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
BUFAPI - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
APIEVB - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
ERRPRO - PROCESS ERROR INCLUDE FILE

### ROUTINES CALLED:

-----  
SNDMSG

PS 620342300  
30 September 1990

SETTIM  
WAIT01  
RCVMSG  
WAIT02  
GETMSG  
CNLTIM  
RELEV  
ERRPRO

## NTM/SERV Module Documentation

NAME: GETTIM  
PURPOSE: GET THE SYSTEM TIME AS A BINARY STRING.  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: GETTIM  
SOURCE FILE TYPE: .COB  
HOST: VAX  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

### DESCRIPTION:

-----  
- CALLS VMS SERVICES: SYS\$GETTIM  
THE GET TIME SYSTEM SERVICE FURNISHES THE CURRENT SYSTEM  
TIME IN 64-BIT FORMAT. THE SYSTEM TIME IS UPDATED EVERY  
10 MILLISECONDS, AND THE TIME IS RETURNED IN  
100-NANOSECOND UNITS FROM THE SYSTEM BASE TIME.

### ARGUMENTS:

-----  
TIME-VALUE = DSPLY [9(18)]  
NTM-RETURN = DSPLY [X(5)]  
SS-STATUS = DSPLY [S9(9)]

### ROUTINES CALLED:

-----  
SYS\$GETTIM

## NTM/SERV Module Documentation

NAME: GETUSR2  
PURPOSE: RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL,  
AND USER NAME.  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: GETUSR2  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

### DESCRIPTION:

RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL, AND  
USER NAME TO THE CALLING AP. NOTE: USER NAME  
IS RETURNED ONLY IF THE ORIGINAL SOURCE AP  
IS THE USER INTERFACE.

-

### ARGUMENTS:

R-AP-NAME = DSPLY [X(10)]  
LOGICAL-CHANNEL = DSPLY [X(3)]  
USER-NAME = DSPLY [X(8)]  
ROLE-NAME = DSPLY [X(10)]  
TERM-ID = DSPLY [X(2)]  
GETUSR-RET = DSPLY [X(5)]  
API-GLOBAL-NAME-SEC = RECRD  
API-GLOBAL-BUFFER-SEC = RECRD  
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]  
CCLD-MBX-EVENT-BLK = DSPLY [X(2032)]  
SEND-EVENT-BLK = DSPLY [X(2032)]  
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]  
TIMER-EVENT-BLK = DSPLY [X(80)]  
TEST-MODE-FLAG = DSPLY [X]

### INCLUDE FILES:

SRVRET - AS THE RETURN GIVEN A TABLE-FULL ERROR  
SRVCD2 - THAT CALL NSEND AND RCV  
RETSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.  
APINME - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
BUFAPI - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
APIEVB - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
TSTMDE - SPACES OR 0.  
ERRPRO - PROCESS ERROR INCLUDE FILE

ROUTINES CALLED:

---

NSEND2 - SEND MESSAGE TO AN AP IN THE IISS.  
RCV2 - RECEIVE MESSAGES FROM OTHER AP'S IN THE IISS .  
ERRPRO

NTM/SERV Module Documentation

NAME: INICOM2  
PURPOSE: INITIALIZE AP'S CONNECTION TO THE IISS.  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: INICOM2  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

-----

-

ARGUMENTS:

-----

COMM-RCV-EVENT-BLOCK = DSPLY [X(2032)]  
INPUT-MBX-NAME = DSPLY [X(14)]  
APC-HOT-MBX-NAME = DSPLY [X(14)]  
APC-COLD-MBX-NAME = DSPLY [X(14)]  
RET-STATUS = DSPLY [X(5)]  
MPU-INSTANCE = DSPLY [XX]

INCLUDE FILES:

-----

ALMSGH - SPACES OR 0.  
INICMD - PROCESS ERROR INCLUDE FILE  
ERRPRO - PROCESS ERROR INCLUDE FILE

ROUTINES CALLED:

-----

GETNAM  
CRTMBX  
SNDMSG  
SETTIM  
WAIT01  
RCVMSG  
WAIT02  
GETMSG  
ERRPRO

## NTM/SERV Module Documentation

NAME: INITAL2  
PURPOSE: INITIALIZE AP'S CONNECTION TO THE T1V MPU.  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: INITAL2  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

### DESCRIPTION:

-----

### ARGUMENTS:

-----

BUFFER = DSPLY [X(4096)]  
BUFFER-SIZE = DSPLY [9(5)]  
SYS-STATE = DSPLY [X]  
USER-RET-CODE = DSPLY [X(5)]  
API-GLOBAL-NAME-SEC = RECRD  
API-GLOBAL-BUFFER-SEC = RECRD  
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]  
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]  
SEND-EVENT-BLK = DSPLY [X(2032)]  
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]  
TIMER-EVENT-BLK = DSPLY [X(80)]  
TEST-MODE-FLAG = DSPLY [X]

### INCLUDE FILES:

-----

APIINI - FOR INITIATION PURPOSES  
ALMSGH - SPACES OR 0.  
APILCL - THE APIS COMMON LOCAL DATA.  
APCNM2 - SERVICE CODES FOR THE NTM SERVICE ROUTINES.  
SRVCDS - SERVICE CODES FOR THE NTM SERVICE ROUTINES.  
RETSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.  
APINME - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
BUFAPI - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
APIEVB - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
TSTMDE - SPACES OR 0.  
ERRPRO - PROCESS ERROR INCLUDE FILE

### ROUTINES CALLED:

-----

LOCKEF  
GETNAM  
CRTMBX

PS 620342300  
30 September 1990

RCVMSG  
SETTIM  
WAIT02  
GETMSG  
SNDMSG  
WAIT01  
DELMBX  
RELEV  
ERRPRO

## NTM/SERV Module Documentation

NAME: INITEX2  
PURPOSE: INITIALIZE UI LIKE AP'S CONNECTION TO THE  
UIV MPU.  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: INITEX2  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

### DESCRIPTION:

### ARGUMENTS:

BUFFER = DSPLY [X(9999)]  
BUFFER-SIZE = DSPLY [9(5)]  
USEF-RET-CODE = DSPLY [X(5)]  
API-GLOBAL-NAME-SEC = RECRD  
API-GLOBAL-BUFFER-SEC = RECRD  
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]  
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]  
SEND-EVENT-BLK = DSPLY [X(2032)]  
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]  
TIMER-EVENT-BLK = DSPLY [X(80)]  
TEST-MODE-FLAG = DSPLY [X]

### INCLUDE FILES:

APIINI - FOR INITIATION PURPOSES  
ALMSGH - SPACES OR 0.  
APILCL - THE APIS COMMON LOCAL DATA.  
SRVCDS - SERVICE CODES FOR THE NTM SERVICE ROUTINES.  
RETSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.  
APCNM1 - APIS GLOBAL NAME DATA.  
APINME - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
BUFAPI - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
APIEVB - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
TSTMDE - SPACES OR 0.  
ERRPRO - PROCESS ERROR INCLUDE FILE

### ROUTINES CALLED:

GETNAM  
CRTMBX  
SNDMSG

PS 620342300  
30 September 1990

SETTIM  
WAIT01  
RCVMSG  
WAIT02  
GETMSG  
DELMBX  
ERRPRO

## NTM/SERV Module Documentation

NAME: INITL2  
PURPOSE: INITIALIZE AN AP's CONNECTION TO AN AP  
SELECTED MPU.  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: INITL2  
SOURCE FILE TYPE: .COB  
HOST: VAX  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

### DESCRIPTION:

-----

-

### ARGUMENTS:

-----  
BUFFER = DSPLY [X(4096)]  
BUFFER-SIZE = DSPLY [9(5)]  
MPU-NAME = DSPLY [X(3)]  
SYS-STATE = DSPLY [X]  
USER-RET-CODE = DSPLY [X(5)]  
API-GLOBAL-NAME-SEC = RECRD  
API-GLOBAL-BUFFER-SEC = RECRD  
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]  
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]  
SEND-EVENT-BLK = DSPLY [X(2032)]  
ACK-MPX-EVENT-BLK = DSPLY [X(2032)]  
TIMER-EVENT-BLK = DSPLY [X(80)]  
TEST-MODE-FLAG = DSPLY [X]

### INCLUDE FILES:

-----  
APIINI - FOR INITIATION PURPOSES  
ALMSGH - SPACES OR 0.  
APILCL - THE APIS COMMON LOCAL DATA.  
APCNM2 - SERVICE CODES FOR THE NTM SERVICE ROUTINES.  
SRVCDS - SERVICE CODES FOR THE NTM SERVICE ROUTINES.  
RETSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.  
APINME - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
BUFAPI - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
APIEVB - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
TSTMDE - SPACES OR 0.  
ERRPRO - PROCESS ERROR INCLUDE FILE

### ROUTINES CALLED:

-----  
GETNAM

PS 620347300  
30 September 1986

CRTMBX  
RCVMSG  
SETTIM  
WAIT02  
GETMSG  
SNDMSG  
WAIT01  
DELMBX  
RELEV  
ERRPRO

NTM/SERV Module Documentation

NAME: INSTNC2  
PURPOSE: GET THE SYSGEN INSTANCE NUMBER.  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: INSTNC2  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:  
-----

-

ARGUMENTS:  
-----

INSTANCE-NUMBER = DSPLY [XX]  
RET-STATUS = DSPLY [X(5)]  
MPU-INSTANCE = DSPLY [XX]

## NTM/SERV Module Documentation

NAME: ISEND2  
PURPOSE: SEND MESSAGE THAT WILL CAUSE THE SPECIFIC  
INITIATION OF AN  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: ISEND2  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:  
-----

### ARGUMENTS:

-----  
DSTINATION = DSPLY [X(10)]  
LOGICAL-CHANNEL = DSPLY [X(3)]  
TIMEOUT-VALUE = DSPLY [X(15)]  
DATA-TYPE = DSPLY [X]

### INCLUDE FILES:

-----  
MSGSTR - PURPOSE  
APIICL - THE APIS COMMON LOCAL DATA.  
SRVCDS - SERVICE CODES FOR THE NTM SERVICE ROUTINES.  
REISTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.  
APINME - \*\*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*\*  
BUFAPI - \*\*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*\*  
APIEVB - \*\*\*\*\* PURPCSE NOT FOUND BY STRIPPER \*\*\*\*\*  
ERRPRO - PROCESS ERROR INCLUDE FILE

### ROUTINES CALLED:

-----  
SENDMSG  
SETITIM  
WAIT01  
RCVMSG  
WAIT02  
GETMSG  
CNLTIM  
PFLIEVB  
ERRPRO

## NTM/SERV Module Documentation

NAME: LOGOFF2  
PURPOSE: SENDS LOGOFF MESSAGE TO THE MONITOR AP.  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: LOGOFF2  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

### DESCRIPTION:

-----  
ACCEPTS LOGOFF DATA FROM THE UI AND FORWARDS  
A MESSAGE TO THE MONITOR AP FOR UPDATING THE  
IISS LOGON TABLE.

### ARGUMENTS:

-----  
TERMINAL-ID = DSPLY [X(2)]  
USER-NAME = DSPLY [X(8)]  
ROLE-NAME = DSPLY [X(10)]  
LOG-RET-CODE = DSPLY [X(5)]  
API-GLOBAL-NAME-SEC = RECRD  
API-GLOBAL-BUFFER-SEC = RECRD  
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]  
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]  
SEND-EVENT-BLK = DSPLY [X(2032)]  
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]  
TIMER-EVENT-BLK = DSPLY [X(80)]

### INCLUDE FILES:

-----  
SRVRET - AS THE RETURN GIVEN A TABLE-FULL ERROR  
SRVCD2 - THAT CALL NSEND AND RCV  
RETSTR - THE APIs COMMON LOCAL DATA FOR ERROR-RETURNS.  
APINME - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
BUFAPI - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
APIEVB - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
ERRPRO - PROCESS ERROR INCLUDE FILE

### ROUTINES CALLED:

-----  
NSEND2 - SEND MESSAGE TO AN AP IN THE IISS.  
ERRPRO

## NTM/SERV Module Documentation

NAME: LOGON2  
PURPOSE: SENDS LOGON MESSAGE TO THE MONITOR AP.  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: LOGON2  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

### DESCRIPTION:

-----  
ACCEPTS LOGON DATA FROM THE UI AND FORWARDS  
A MESSAGE TO THE MONITOR AP FOR UPDATING THE  
IISS LOGON TABLE. WAITS ON THE RESPONSE FROM  
MONITOR BEFORE RETURNING CONTROL TO THE UI.

-

### ARGUMENTS:

-----  
TERMINAL-ID = DSPLY [X(2)]  
USER-NAME = DSPLY [X(8)]  
ROLE-NAME = DSPLY [X(10)]  
SESSION-START-TIME = DSPLY [X(23)]  
CHAN-RANGE-START = DSPLY [X(3)]  
CHAN-RANGE-END = DSPLY [X(3)]  
LOG-RET-CODE = DSPLY [X(5)]  
API-GLOBAL-NAME-SEC = RECRD  
API-GLOBAL-BUFFER-SEC = RECRD  
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]  
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]  
SEND-EVENT-BLK = DSPLY [X(2032)]  
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]  
TIMER-EVENT-BLK = DSPLY [X(80)]  
TEST-MODE-FLAG = DSPLY [X]

### INCLUDE FILES:

-----  
SRVRET - AS THE RETURN GIVEN A TABLE-FULL ERROR  
RETSTR - THE APIs COMMON LOCAL DATA FOR ERROR-KEY RNG.  
SKVCD2 - THAT CALL NSEND AND RCV  
APINME - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
BUFAPI - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
APIEVB - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
ISTMDE - SPACES OR 0.  
ERRPRO - PROCESS ERROR INCLUDE FILE

ROUTINES CALLED:

-----  
NSEND2 - SEND MESSAGE TO AN AP IN THE IISS.  
RCV2 - RECEIVE MESSAGES FROM OTHER AP'S IN THE IISS .  
ERRPRO

NTM/SERV Module Documentation

NAME: MBXLG2  
PURPOSE: PURPOSE NOT KNOWN - ACTIVE CODE.  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: MBXLG2  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:  
-----

ARGUMENTS:  
-----

CALL-NAME = DSPLY [X(72)]

NTM/SERV Module Documentation

NAME: MBXLOG  
PURPOSE: PURPOSE NOT KNOWN - ACTIVE CODE.  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: MBXLOG  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

-----

-

ARGUMENTS:

-----

MSG-BUFFER = DSPLY [X(72)]

ROUTINES CALLED:

-----

GETNAM

## NTM/SERV Module Documentation

NAME: NSEND2  
PURPOSE: SEND MESSAGE TO AN AP IN THE IISS.  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: NSEND2  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

### DESCRIPTION:

-----

-

### ARGUMENTS:

-----

DSTINATION = DSPLY [X(10)]  
LOGICAL-CHANNEL = DSPLY [X(3)]  
TIMEOUT-VALUE = DSPLY [X(15)]  
DATA-TYPE = DSPLY [X]

### INCLUDE FILES:

-----

MSGSTR - PURPOSE  
APICL - THE APIS COMMON LOCAL DATA.  
SRVCDS - SERVICE CODES FOR THE NTM SERVICE ROUTINES.  
RETSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.  
APINME - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
BUFAPI - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
APIEVB - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
ERRPRO - PROCESS ERROR INCLUDE FILE

### ROUTINES CALLED:

-----

SNDMSG  
SETTIM  
WAIT01  
RCVMSG  
WAIT02  
GETMSG  
CNLTIM  
FELEVVB  
ERRPRO

### CALLED DIRECTLY BY:

-----

CHGROL2 - CHANGE THE ROLE UNDER WHICH A USER LOGGED ON.

GDACK2            - SENDS GD ACK MESSAGE TO LOCAL MPU.  
GETUSR2            - RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL, AND  
                  USER NAME.  
LOGOFF2            - SENDS LOGOFF MESSAGE TO THE MONITOR AP.  
LOGON2            - SENDS LOGON MESSAGE TO THE MONITOR AP.  
SIGABT2            - SIGNAL THE MPU TO ABORT A CHILD AP  
SIGERR2            - SENDS AN ERROR MESSAGE TO MONITOR AND TO  
                  ORIGINAL SOURCE.  
WHTHST2            - RETURNS THE NAME OF THE HOST ON WHICH AN AP  
                  RESIDES.

USED IN MAIN PROGRAM(S):

-----  
CHGROL2            - CHANGE THE ROLE UNDER WHICH A USER LOGGED ON.  
GDACK2            - SENDS GD ACK MESSAGE TO LOCAL MPU.  
GETUSR2            - RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL, AND  
                  USER NAME.  
LOGOFF2            - SENDS LOGOFF MESSAGE TO THE MONITOR AP.  
LOGON2            - SENDS LOGON MESSAGE TO THE MONITOR AP.  
SIGABT2            - SIGNAL THE MPU TO ABORT A CHILD AP  
SIGERR            - CALL SIGERR2  
WHTHST            - CALL WHTHST2

NTM/SERV Module Documentation

NAME: POSTCOM  
PURPOSE:  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: POSTCOM  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

-----

ARGUMENTS:

-----

FILENAM = DSPLY [X(30)]

ROUTINES CALLED:

-----

RCLFILE -

CALLED DIRECTLY BY:

-----

RCLE - REMOTE COMPILE AND LINK EXPERT DRIVER

USED IN MAIN PROGRAM(S):

-----

RCLE - REMOTE COMPILE AND LINK EXPERT DRIVER

NTM/SERV Module Documentation

NAME: PRECOM  
PURPOSE:  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: PROGRAM  
SOURCE FILE: PRECOM  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:  
-----

ROUTINES CALLED:  
-----

RCLFILE -

CALLED DIRECTLY BY:  
-----

RCLE - REMOTE COMPILE AND LINK EXPERT DRIVER

USED IN MAIN PROGRAM(S):  
-----

RCLE - REMOTE COMPILE AND LINK EXPERT DRIVER

## NTM/SERV Module Documentation

NAME: QSEND2  
PURPOSE: SEND MESSAGES TO OTHER APS IN THE IISS  
FROM QSERVER AP'S.  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: QSEND2  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

### DESCRIPTION:

-----  
THIS ROUTINE IS A PRELIMINARY VERSION OF THE SEND\*  
SERVICE FOR THE QSERVER. CURRENTLY, IT ONLY \*  
SUPPORTS QSERVERS THAT SERVICE ONE REQUEST AT A \*  
TIME. \*

### ARGUMENTS:

-----  
DSTINATION = DSPLY [X(10)]  
LOGICAL-CHANNEL = DSPLY [X(3)]  
TIMEOUT-VALUE = DSPLY [X(15)]  
DATA-TYPE = DSPLY [X]  
MESSAGE-TYPE = DSPLY [X(2)]  
SEND-SIZE = DSPLY [9(5)]  
USER-DATA = RECRD  
ACCEPT-STATUS = DSPLY [X(5)]  
API-GLOBAL-NAME-SEC = RECRD  
API-GLOBAL-BUFFER-SEC = RECRD  
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]  
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]  
SEND-EVENT-BLK = DSPLY [X(2032)]  
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]  
TIMER-EVENT-BLK = DSPLY [X(80)]

### INCLUDE FILES:

-----  
MSGSTR - PURPOSE  
APILCL - THE APIS COMMON LOCAL DATA.  
SRVCDS - SERVICE CODES FOR THE NTM SERVICE ROUTINES.  
RETSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.  
APINME - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
BUFAPI - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
APIEVB - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
ERRPRO - PROCESS ERROR INCLUDE FILE

PS 620342300  
30 September 1990

ROUTINES CALLED:

---

SNDMSG  
SETTIM  
WAIT01  
RCVMSG  
WAIT02  
GETMSG  
CNLTIM  
RELEVB  
ERRPRO

## NTM/SERV Module Documentation

NAME: RCLE  
PURPOSE: REMOTE COMPILE AND LINK EXPERT DRIVER  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: PROGRAM  
SOURCE FILE: RCLE  
SOURCE FILE TYPE: .COB  
HOST: VAX  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

### DESCRIPTION:

-----  
RCLE IS INITIATED BY "SNDRCLE" NTM SERVICE. IT BUILDS A \*  
COMMAND FILE WHICH INCLUDES THE SYSTEM CONTROL CARDS FOUND  
IN THE INITIATING MESSAGE. THIS COMMAND FILE IS THEN RUN AS  
A DETACHED PROCESS. WHEN IT COMPLETES, RCLE WILL RETURN A  
MESSAGE CONTAINING THE NAME OF THE LOG FILE.  
MODIFIED: 7/19/85 TO NOT CALL GETUSER. IT NOW REPLIES TO  
RCV.

### INCLUDE FILES:

-----  
SRVRET - AS THE RETURN GIVEN A TABLE-FULL ERROR  
APILCL - THE APIS COMMON LOCAL DATA.  
APIEVB - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
RETSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.  
ERRPRO - PROCESS ERROR INCLUDE FILE

### ROUTINES CALLED:

-----  
INITAL  
RCV  
RCLFILE -  
PRECOM -  
POSTCOM -  
SYS\$GETJPI  
SYS\$CREPRC  
SETTIM  
WAIT01  
NSEND  
TRMNAT - CALL TRMNAT2  
ERRPRO

NTM/SERV Module Documentation

NAME: RCLFILE  
PURPOSE:  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: RCLFILE  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:  
-----

ARGUMENTS:  
-----

C-CARD = DSPLY [X(72)]  
REQUEST = DSPLY [X(5)]

CALLED DIRECTLY BY:  
-----

POSTCOM -  
PRECOM -  
RCLE - REMOTE COMPILE AND LINK EXPERT DRIVER

USED IN MAIN PROGRAM(S):  
-----

RCLE - REMOTE COMPILE AND LINK EXPERT DRIVER

NTM/SERV Module Documentation

NAME: RCV2  
PURPOSE: RECEIVE MESSAGES FROM OTHER AP'S IN THE  
IISS .  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: RCV2  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:  
-----

ARGUMENTS:  
-----

LOGICAL-CHANNEL = DSPLY [X(3)]  
WAIT-FLAG = DSPLY [X]  
MSG-SOURCE = DSPLY [X(10)]  
MESSAGE-TYPE = DSPLY [X(2)]  
DATA-LENGTH = DSPLY [9(5)]  
USER-DATA = RECRD  
ACCEPT-STATUS = DSPLY [X(5)]  
MSG-SERIAL-NUMBER = DSPLY [X(7)]  
API-GLOBAL-NAME-SEC = RECRD  
API-GLOBAL-BUFFER-SEC = RECRD  
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]  
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]  
SEND-EVENT-BLK = DSPLY [X(2032)]  
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]  
TIMER-EVENT-BLK = DSPLY [X(80)]  
TEST-MODE-FLAG = DSPLY [X]

INCLUDE FILES:  
-----

MSGSTR - PURPOSE  
APILCL - THE APIS COMMON LOCAL DATA.  
SRVCDS - SERVICE CODES FOR THE NTM SERVICE ROUTINES.  
RETSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.  
APINME - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
BUFAPI - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
APIEVB - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
TSTMDE - SPACES OR 0.  
ERRPRO - PROCESS ERROR INCLUDE FILE

ROUTINES CALLED:

-----  
RCVMSG  
WAIT02  
WAIT01  
GETMSG  
ERRPRO

CALLED DIRECTLY BY:

-----  
GETUSR2 - RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL, AND  
USER NAME.  
LOGON2 - SENDS LOGON MESSAGE TO THE MONITOR AP.  
WHTHST2 - RETURNS THE NAME OF THE HOST ON WHICH AN AP  
RESIDES.

USED IN MAIN PROGRAM(S):

-----  
GETUSR2 - RETURNS ORIGINAL SOURCE, LOGICAL CHANNEL, AND  
USER NAME.  
LOGON2 - SENDS LOGON MESSAGE TO THE MONITOR AP.  
WHTHST - CALL WHTHST2

## NTM/SERV Module Documentation

NAME: SIGABT2  
PURPOSE: SIGNAL THE MPU TO ABORT A CHILD AP  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: SIGABT2  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

### DESCRIPTION:

-----  
NTM SERVICE TO SIGNAL ABORT CHILD TO THE MPU. \*  
AFTER THIS PROCESS, THE MPU PROCESS "ABORT" TAKES OVER. \*

-----  
TELL THE LOCAL MPU TO ABORT A CHILD. THE CHILD MAY BE ON  
THE SAME OR DIFFERENT CLUSTER/HOST.

### ARGUMENTS:

-----  
AP-NAME = DSPLY [X(10)]

### INCLUDE FILES:

-----  
SRVRET - AS THE RETURN GIVEN A TABLE-FULL ERROR  
RETSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.  
SRVCD2 - THAT CALL NSEND AND RCV  
APILCL - THE APIS COMMON LOCAL DATA.  
APINME - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
BUFAPI - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
APIEVB - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
TSTMDE - SPACES OR 0.  
ERRPRO - PROCESS ERROR INCLUDE FILE

### ROUTINES CALLED:

-----  
NSEND2 - SEND MESSAGE TO AN AP IN THE IISS.  
ERRPRO

## NTM/SERV Module Documentation

NAME: SIGERR  
PURPOSE: CALL SIGERR2  
LANGUAGE: C  
MODULE TYPE: FUNCTION  
FUNCTION TYPE: INT ()  
SOURCE FILE: SIGERR  
SOURCE FILE TYPE: .C  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

### DESCRIPTION:

---

#### SYNOPSIS

```
CALL SIGERR USING ERROR-CODE,  
          SEVERITY-LEVEL,  
          ERROR-DESCRIPTION,  
          RETURN-CODE.
```

### INPUTS/OUTPUTS:

#### INPUTS:

```
ERROR-CODE PIC X(5).  
SEVERITY-LEVEL PIC X.  
ERROR-DESCRIPTION PIC X(72).
```

#### OUTPUTS:

```
RETURN-CODE PIC X(5).
```

#### DESCRIPTION

SIGERR IMPLEMENTS A TWO-STEP CALL TO SIGERR2,  
ADDING THE ADDRESSES OF GLOBAL AREAS TO THE  
PARAMETER LIST (IBM COBOL DOESN'T ALLOW EXTERNAL  
DATA AREAS).

### ARGUMENTS:

---

```
A =      CHAR *  
B =      CHAR *  
C =      CHAR *  
D =      CHAR *
```

### INCLUDE FILES:

---

```
APINME    - **** PURPOSE NOT FOUND BY STRIPPER ****  
BUFAPI    - **** PURPOSE NOT FOUND BY STRIPPER ****  
APIEVB    - **** PURPOSE NOT FOUND BY STRIPPER ****
```

ROUTINES CALLED:

---

APACCT  
SIGERR2 - SENDS AN ERROR MESSAGE TO MONITOR AND TO  
ORIGINAL SOURCE.

## NTM/SERV Module Documentation

NAME: SIGERR2  
PURPOSE: SENDS AN ERROR MESSAGE TO MONITOR AND TO  
ORIGINAL SOURCE.  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: SIGERR2  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

### DESCRIPTION:

-----  
ACCEPTS ERROR DATA FROM AN AP AND FORWARDS \*  
A MESSAGE TO THE MONITOR AP FOR ITS ERROR \*  
REPORTING AND ONE TO THE ORIGINAL SOURCE OF THE \*  
AP. \*

### ARGUMENTS:

-----  
ERROR-CODE = DSPLY [X(5)]  
SEVERITY-LEVEL = DSPLY [X]  
ERROR-DESCRIPTION = DSPLY [X(72)]  
RTN-CODE = DSPLY [X(5)]  
API-GLOBAL-NAME-SEC = RECRD  
API-GLOBAL-BUFFER-SEC = RECRD  
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]  
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]  
SEND-EVENT-BLK = DSPLY [X(2032)]  
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]  
TIMER-EVENT-BLK = DSPLY [X(80)]

### INCLUDE FILES:

-----  
SRVRET - AS THE RETURN GIVEN A TABLE-FULL ERROR  
RETSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.  
SRVCD2 - THAT CALL NSEND AND RCV  
APILCL - THE APIS COMMON LOCAL DATA.  
APINME - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
BUFAPI - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
APIEVB - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
ERRPRO - PROCESS ERROR INCLUDE FILE

### ROUTINES CALLED:

-----  
NSEND2 - SEND MESSAGE TO AN AP IN THE IISS.  
ERRPRO

CALLED DIRECTLY BY:

-----  
SIGERR - CALL SIGERR2

USED IN MAIN PROGRAM(S):

-----  
SIGERR - CALL SIGERR2

NTM/SERV Module Documentation

NAME: SNDRCLE  
PURPOSE: REMOTE COMPILE AND LINK EXPERT CALLING SERVICE  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: SNDRCLE  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

ARGUMENTS:

NODE = DSPLY [X(3)]  
CHANNEL = DSPLY [X(3)]  
CTL-CARD = DSPLY [X(1096)]  
RET-STATUS = DSPLY [X(5)]

INCLUDE FILES:

SRVRET - AS THE RETURN GIVEN A TABLE-FULL ERROR

ROUTINES CALLED:

ISEND

## NTM/SERV Module Documentation

NAME: TRMNAT  
PURPOSE: CALL TRMNAT2  
LANGUAGE: C  
MODULE TYPE: FUNCTION  
FUNCTION TYPE: INT ()  
SOURCE FILE: TRMNAT  
SOURCE FILE TYPE: .C  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

### DESCRIPTION:

SYNOPSIS  
CALL TRMNAT USING USER-TERMINATE-STATUS.

### INPUTS/OUTPUTS:

INPUTS:  
USER-TERMINATE-STATUS PIC X.

### OUTPUTS:

### DESCRIPTION

TRMNAT IMPLEMENTS A TWO-STEP CALL TO TRMNAT2,  
ADDING THE ADDRESSES OF GLOBAL AREAS TO THE  
PARAMETER LIST (IBM COBOL DOESN'T ALLOW EXTERNAL  
DATA AREAS).

### ARGUMENTS:

A = CHAR \*

### INCLUDE FILES:

APINME - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
APIEVB - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*

### ROUTINES CALLED:

APACCT  
TRMNAT2 - TERMINATE AN AP'S CONNECTION TO THE IISS.

### CALLED DIRECTLY BY:

RCLE - REMOTE COMPILE AND LINK EXPERT DRIVER

PS 620342300  
30 September 1990

USED IN MAIN PROGRAM(S):

-----  
RCLE - REMOTE COMPILE AND LINK EXPERT DRIVER

NTM/SERV Module Documentation

NAME: TRMNAT2  
PURPOSE: TERMINATE AN AP'S CONNECTION TO THE IISS.  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: TRMNAT2  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

-----

-

ARGUMENTS:

-----

USER-TERMINATE-STATUS = DSPLY [X]  
API-GLOBAL-NAME-SEC = RECRD  
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]  
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]  
SEND-EVENT-BLK = DSPLY [X(2032)]  
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]  
TIMER-EVENT-BLK = DSPLY [X(80)]

INCLUDE FILES:

-----

ADMSGH - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.  
APILCL - THE APIS COMMON LOCAL DATA.  
SRVCDS - SERVICE CODES FOR THE NTM SERVICE ROUTINES.  
RETSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.  
APINME - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
APIEVB - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
ERRPRO - PROCESS ERROR INCLUDE FILE

ROUTINES CALLED:

-----

DELMBX  
ENDRUN  
SNDMSG  
SETTIM  
WAIT01  
RELEV  
ERRPRO

CALLED DIRECTLY BY:

-----

TRMNAT - CALL TRMNAT2

PS 620342300  
30 September 1990

USED IN MAIN PROGRAM(S):

---

RCLE - REMOTE COMPILE AND LINK EXPERT DRIVER

NTM/SERV Module Documentation

NAME: TRMNAX  
PURPOSE: CALL TRMNAX2  
LANGUAGE: C  
MODULE TYPE: FUNCTION  
FUNCTION TYPE: INT ()  
SOURCE FILE: TRMNAX  
SOURCE FILE TYPE: .C  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

DESCRIPTION:

-----  
SYNOPSIS  
CALL TRMNAX USING USER-TERMINATE-STATUS.

INPUTS/OUTPUTS:

INPUTS:  
USER-TERMINATE-STATUS PIC X.

OUTPUTS:

DESCRIPTION

TRMNAX IMPLEMENTS A TWO-STEP CALL TO TRMNAX2,  
ADDING THE ADDRESSES OF GLOBAL AREAS TO THE  
PARAMETER LIST (IBM COBOL DOESN'T ALLOW EXTERNAL  
DATA AREAS).

ARGUMENTS:

-----  
A = CHAR \*

ROUTINES CALLED:

-----  
AFACCT  
TRMNAX2 - TERMINATE COMM'S CONNECTION TO THE IISS.

## NTM/SERV Module Documentation

NAME: TRMNAX2  
PURPOSE: TERMINATE COMM'S CONNECTION TO THE IISS.  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: TRMNAX2  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

### DESCRIPTION:

---

SINCE COMM DELETES ITS INPUT MAILBOX, TRMNAX HAS ONLY  
TWO FUNCTIONS. THEY ARE: SEND THE "AP DYING" MESSAGE  
TO THE COMM APC AND THEN CALL "ENDRUN" TO TERMINATE THE  
AP.

\*  
\*  
\*  
\*

### ARGUMENTS:

---

USER-TERMINATE-STATUS = DSPLY [X]  
MPU-INSTANCE = DSPLY [XX]

### INCLUDE FILES:

---

ADMSGH - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.  
RETSTR - THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.  
APILCL - THE APIS COMMON LOCAL DATA.  
SRVCDS - SERVICE CODES FOR THE NTM SERVICE ROUTINES.  
COMAPC - PROCESS ERROR INCLUDE FILE  
ERRPRO - PROCESS ERROR INCLUDE FILE

### ROUTINES CALLED:

---

GETNAM  
ENDRUN  
SNDMSG  
SETTIM  
WAIT01  
RELEV  
ERRPRO

### CALLED DIRECTLY BY:

---

TRMNAX - CALL TRMNAX2

PS 620342300  
30 September 1990

USED IN MAIN PROGRAM(S):

-----  
TRMNAX - CALL TRMNAX2

## NTM/SERV Module Documentation

NAME: TSTMOD  
PURPOSE: CALL COBOL ROUTINE TSTMOD2  
LANGUAGE: C  
MODULE TYPE: FUNCTION  
FUNCTION TYPE: INT ()  
SOURCE FILE: TSTMOD  
SOURCE FILE TYPE: .C  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

### DESCRIPTION:

---

SYNOPSIS  
CALL TSTMOD USING TEST-STATUS,  
RETURN-CODE.

### INPUTS/OUTPUTS:

INPUTS:  
TEST-STATUS PIC X.

OUTPUTS:  
RETURN-CODE PIC X(5).

### DESCRIPTION

TSTMOD IMPLEMENTS A TWO-STEP CALL TO TSTMOD2,  
ADDING THE ADDRESSES OF GLOBAL AREAS TO THE  
PARAMETER LIST (IBM COBOL DOESN'T ALLOW EXTERNAL  
DATA AREAS).

### ARGUMENTS:

---

A = CHAR \*  
B = CHAR \*

### INCLUDE FILES:

---

APIEVB - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*

### ROUTINES CALLED:

---

APACCT  
TSTMOD2 - SET/RESET THE TEST-MODE-FLAG.

## NTM/SERV Module Documentation

NAME: TSTMOD2  
PURPOSE: SET/RESET THE TEST-MODE-FLAG.  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: TSTMOD2  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

### DESCRIPTION:

-----  
TSTMOD2 IS TO BE CALLED BY  
THE UI TO SET/RESET THE TEST-MODE-FLAG . WHEN SET  
THE UI WILL RECEIVE ASYNCHRONOUS ERROR MESSAGES FOR  
THE USER IT IS SERVICING. WHEN THE TEST-MODE-FLAG  
IS OFF, THE ASYNCH ERROR MESSAGES WILL BE DISCARDED

\*  
\*  
\*  
\*  
\*

### ARGUMENTS:

-----  
TEST-STATUS = DSPLY [X]

### INCLUDE FILES:

-----  
SRVCD2 - THAT CALL NSEND AND RCV  
TSTMDE - SPACES OR 0.

### CALLED DIRECTLY BY:

-----  
TSTMOD - CALL COBOL ROUTINE TSTMOD2

### USED IN MAIN PROGRAM(S):

-----  
TSTMOD - CALL COBOL ROUTINE TSTMOD2

## NTM/SERV Module Documentation

NAME: WHTHST  
PURPOSE: CALL WHTHST2  
LANGUAGE: C  
MODULE TYPE: FUNCTION  
FUNCTION TYPE: INT ()  
SOURCE FILE: WHTHST  
SOURCE FILE TYPE: .C  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

### DESCRIPTION:

---

#### SYNOPSIS

```
CALL WHTHST USING REQ-AP-NAME,  
AP-HOST-NAME,  
RETURN-STATUS.
```

### INPUTS/OUTPUTS:

#### INPUTS:

REQ-AP-NAME PIC X(10).

#### OUTPUTS:

AP-HOST-NAME PIC X(3).  
RETURN-STATUS PIC X(5).

### DESCRIPTION

WHTHST IMPLEMENTS A TWO-STEP CALL TO WHTHST2,  
ADDING THE ADDRESSES OF GLOBAL AREAS TO THE  
PARAMETER LIST (IBM COBOL DOESN'T ALLOW EXTERNAL  
DATA AREAS).

### ARGUMENTS:

---

A = CHAR \*  
B = CHAR \*  
C = CHAR \*

### INCLUDE FILES:

---

APINME - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
BUFAPI - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
APIEVB - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*

### ROUTINES CALLED:

---

APACCT  
WHTHST2 - RETURNS THE NAME OF THE HOST ON WHICH AN AP  
RESIDES.

## NTM/SERV Module Documentation

NAME: WHTHST2  
PURPOSE: RETURNS THE NAME OF THE HOST ON WHICH AN AP RESIDES.  
LANGUAGE: VAX-11 COBOL  
MODULE TYPE: SUBROUTINE  
SOURCE FILE: WHTHST2  
SOURCE FILE TYPE: .COB  
HOST:  
SUBSYSTEM: NTM  
SUBDIRECTORY: SERVICES  
DOCUMENTATION GROUP: NTMSERV

### DESCRIPTION:

-----  
ACCEPTS AN AP NAME FROM A REQUESTING AP AND RETURNS THE NAME OF THE HOST ON WHICH THE SPECIFIED AP RESIDES. IF THE INFO IS NOT FOUND, AN UNSUCCESSFUL STATUS CGDE IS RETURNED TO THE CALLING AP.

-

### ARGUMENTS:

-----  
REQ-AP-NAME = DSPLY [X(10)]  
AP-HOST-NAME = DSPLY [X(3)]  
RETURN-STATUS = DSPLY [X(5)]  
API-GLOBAL-NAME-SEC = RECRD  
API-GLOBAL-BUFFER-SEC = RECRD  
HOT-MBX-EVENT-BLK = DSPLY [X(2032)]  
COLD-MBX-EVENT-BLK = DSPLY [X(2032)]  
SEND-EVENT-BLK = DSPLY [X(2032)]  
ACK-MBX-EVENT-BLK = DSPLY [X(2032)]  
TIMER-EVENT-BLK = DSPLY [X(80)]  
TEST-MODE-FLAG = DSPLY [X]

### INCLUDE FILES:

-----  
RETSTR - THE APIs COMMON LOCAL DATA FOR ERROR-RETURNS.  
SRVRET - AS THE RETURN GIVEN A TABLE-FULL ERROR  
SRVCD2 - THAT CALL NSEND AND RCV  
APINME - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
BUFAPI - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
APIEVB - \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
TSTMDE - SPACES OR 0.  
ERRPRO - PROCESS ERROR INCLUDE FILE

### ROUTINES CALLED:

-----  
NSEND2 - SEND MESSAGE TO AN AP IN THE IISS.  
RCV2 - RECEIVE MESSAGES FROM OTHER AP'S IN THE IISS .  
ERRPRO

CALLED DIRECTLY BY:

-----  
WHTHST - CALL WHTHST2

USED IN MAIN PROGRAM(S):

-----  
WHTHST - CALL WHTHST2

### 3.10.9 Include File Descriptions

The following list contains a purpose and description of each include file listed in 3.10.4 as specified in the source code. The language it is written in is also given.

PS 620342300  
30 September 1990

NTM/SERV Include File Description

FILE NAME: ADMSGH  
PURPOSE: THE APIS COMMON LOCAL DATA FOR ERROR-RETURNS.  
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

-----  
MODIFIED 8/20/84 INITALIZE ALL LOCAL VARAIBLES TO SPACES  
OR 0  
MODIFIED 5/24/85 CLEAN-UP.

NTM/SERV Include File Description

FILE NAME: ALMSGH  
PURPOSE: SPACES OR 0.  
LANGUAGE: VAX-11 COBOL

DESCRIPTION:  
-----

NTM/SERV Include File Description

FILE NAME: APCNM1  
PURPOSE: APIS GLOBAL NAME DATA.  
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

-----

MODIFIED 8/24/84 MSG-RCV-BUFFER TO OCCUR 20 TIMES.  
MODIFIED 10/25/83 TO MOVE AP'S NUMBER OF MAILBOXES VALUE TO  
TO THE SYSTEM STATE BLOCK.  
RESTORED 11/22/83  
MODIFIED 12/21/83 FOR ACK MAILBOX VALUES.  
MODIFIED 1/30/84 FOR EXPANDED AP NAME.  
MODIFIED 2/01/84 PARTITIONED FROM OLD APISEC.INC TO REDUCE  
STORAGE IN SERVICES.  
MODIFIED 7/05/84 REMOVED EXTERNAL FLAG. APM  
MODIFIED 5/24/85 CLEAN-UP....6/3/85 CLEANUP CLEANED UP.  
MODIFIED 6/14/85 PRONME CONTAINS ONLY APNAME AND INSTANCE

NTM/SERV Include File Description

FILE NAME: APCNM2  
PURPOSE: SERVICE CODES FOR THE NTM SERVICE ROUTINES.  
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

-----

MODIFIED 10/06/83 TO INCLUDE INITEX-RES-NOT-AVAIL.  
MODIFIED 11/02/83 TO INCLUDE WHTHST- CODES.  
MODIFIED 1/09/84 TO CHANGE ERROR CODES TO PIC X(5) AND TO  
ELIMINATE ALPHA CHARACTERS.  
MODIFIED 1/26/84 TO ADD SERVICE-SUCCESS (GENERIC) AND

PS 620342300  
30 September 1990

NTM/SERV Include File Description

FILE NAME: APIEVB  
PURPOSE: \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
LANGUAGE: C

DESCRIPTION:  
-----

PS 620342300  
30 September 1990

NTM/SERV Include File Description

FILE NAME: APIINI  
PURPOSE: FOR INITIATION PURPOSES  
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

-----  
28 jan 84 : changes for longer ap name

NTM/SERV Include File Description

FILE NAME: APILCL  
PURPOSE: THE APIS COMMON LOCAL DATA.  
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

-----

MODIFIED 8/24/83 TO UP THE SIZE OF MAX-IN-RCV-BUFFER FROM  
10  
TO 20.  
MODIFIED TO ADD VALUES FOR SYSTEM COMMAND  
CATEGORIES.

NTM/SERV Include File Description

FILE NAME: APINME  
PURPOSE: \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
LANGUAGE: C

DESCRIPTION:  
-----

PS 620342300  
30 September 1990

NTM/SERV Include File Description

FILE NAME: BUFAPI  
PURPOSE: \*\*\*\* PURPOSE NOT FOUND BY STRIPPER \*\*\*\*  
LANGUAGE: C

DESCRIPTION:  
-----

NTM/SERV Include File Description

FILE NAME: COMAPC  
PURPOSE: PROCESS ERROR INCLUDE FILE  
LANGUAGE: VAX-11 COBOL

DESCRIPTION:  
-----

PS 620342300  
30 September 1990

NTM/SERV Include File Description

FILE NAME: ERRPRO  
PURPOSE: PROCESS ERROR INCLUDE FILE  
LANGUAGE: VAX-11 COBOL

DESCRIPTION:  
-----

NTM/SERV Include File Description

FILE NAME: FILES:

PURPOSE: AS THE RETURN GIVEN A TABLE-FULL ERROR

LANGUAGE: VAX-11 COBOL

DESCRIPTION:

-----  
MODIFIED 11/2/83 TO INCLUDE RET-CODE-5  
MODIFIED 1/9/84 TO INCREASE ALL ERROR CODES TO PIC X(8)  
AND TO ELIMINATE ALPHA'S  
MODIFIED 1/26/84 TO ADD RET-CODE FOR GETUSR-NOT-SUCC  
SRV-SUCCESSFUL ADDED FOR GENERIC RETURN  
MODIFIED 2/7/84 TO ADD ERROR CODES FOR ENTRY-NOT-FOUND  
MODIFIED 2/8/84 TO ADD WHTHST-NOT-SUCCESSFUL  
MODIFIED 2/20/84 TO ADD TSTMOD NEW CODES.

PS 620342300  
30 September 1990

NTM/SERV Include File Description

FILE NAME: INICMD  
PURPOSE: PROCESS ERROR INCLUDE FILE  
LANGUAGE: VAX-11 COBOL

DESCRIPTION:  
-----

NTM/SERV Include File Description

FILE NAME: MSGSTR  
PURPOSE: PURPOSE  
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

-----  
MODIFIED 9/23/83 TO IDENTIFY ERROR CODES AS RETURNED VIA  
SNDsap. NOTE - NO NACK IS SENT - ALSO  
CHANGED RESOURCE-FULL VALUE TO 33.  
MODIFIED 10/06/83 TO ADD VALUE FOR SYSTEM STATE MESSAGE.  
MODIFIED 11/22/83 RESTORED FROM HARD COPY.  
MODIFIED 1/12/84 TO HANDLE FIVE CHAR ERROR CODE.  
MODIFIED 1/30/84 FOR EXPANDED AP NAME.  
MODIFIED 2/08/84 TO RECOGNIZE "J" AS A PAIRED MESSAGE.  
MODIFIED 8/20/84 INITIALIZE ALL LOCAL VARAIBLES TO SPACES  
OR 0  
MODIFIED 9/20/84 ADDED IBM NAMES TO NTMNAME. BCS APM  
MODIFIED 5/24/85 CLEAN-UP.

NTM/SERV Include File Description

FILE NAME: OF  
PURPOSE: AS THE RETURN GIVEN A TABLE-FULL ERROR  
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

-----  
MODIFIED 11/2/83 TO INCLUDE RET-CODE-5 \*  
MODIFIED 1/9/84 TO INCREASE ALL ERROR CODES TO PIC X(5) \*  
AND TO ELIMINATE ALPHA'S \*  
MODIFIED 1/26/84 TO ADD RET-CODE FOR GETUSR-NOT-SUCC \*  
SRV-SUCCESSFUL ADDED FOR GENERIC RETURN \*  
MODIFIED 2/7/84 TO ADD ERROR CODES FOR ENTRY-NOT-FOUND \*  
MODIFIED 2/8/84 TO ADD WHTHST-NOT-SUCCESSFUL \*  
MODIFIED 2/20/84 TO ADD TSTMOD NEW CODES. \*

NTM/SERV Include File Description

FILE NAME: RETSTR

PURPOSE: THE API'S COMMON LOCAL DATA FOR ERROR-RETURNS.

LANGUAGE: VAX-11 COBOL

DESCRIPTION:

-----  
MODIFIED 8/20/84 INITALIZE ALL LOCAL VARAIBLES TO SPACES  
OR 0  
MODIFIED 5/24/85 CLEAN-UP.

PS 620342300  
30 September 1990

NTM/SERV Include File Description

FILE NAME: SRVCD2  
PURPOSE: THAT CALL NSEND AND RCV  
LANGUAGE: VAX-11 COBOL

DESCRIPTION:  
-----

NTM/SERV Include File Description

FILE NAME: SRVCDS  
PURPOSE: SERVICE CODES FOR THE NTM SERVICE ROUTINES.  
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

-----

MODIFIED 10/06/83 TO INCLUDE INITEX-RES-NOT-AVAIL.  
MODIFIED 11/02/83 TO INCLUDE WHTHST- CODES.  
MODIFIED 1/09/84 TO CHANGE ERROR CODES TO PIC X(5) AND TO  
ELIMINATE ALPHA CHARACTERS.  
MODIFIED 1/26/84 TO ADD SERVICE-SUCCESS (GENERIC) AND  
GETUSR-NOT-SUCCESSFUL.  
MODIFIED 2/07/84 TO ADD ERROR CODES FOR ENTRY-NOT-FOUND.  
MODIFIED 5/24/85 CLEAN-UP.

NTM/SERV Include File Description

FILE NAME: SRVRET  
PURPOSE: AS THE RETURN GIVEN A TABLE-FULL ERROR  
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

-----  
MODIFIED 11/2/83 TO INCLUDE RET-CODE-5 \*  
MODIFIED 1/9/84 TO INCREASE ALL ERROR CODES TO PIC X(5) \*  
AND TO ELIMINATE ALPHA'S \*  
MODIFIED 1/26/84 TO ADD RET-CODE FOR GETUSR-NOT-SUCC \*  
SRV-SUCCESSFUL ADDED FOR GENERIC RETURN \*  
MODIFIED 2/7/84 TO ADD ERROR CODES FOR ENTRY-NOT-FOUND \*  
MODIFIED 2/8/84 TO ADD WHTHST-NOT-SUCCESSFUL \*  
MODIFIED 2/20/84 TO ADD TSTMOD NEW CODES. \*

## NTM/SERV Include File Description

FILE NAME: TSTMDE  
PURPOSE: SPACES OR 0.  
LANGUAGE: VAX-11 COBOL

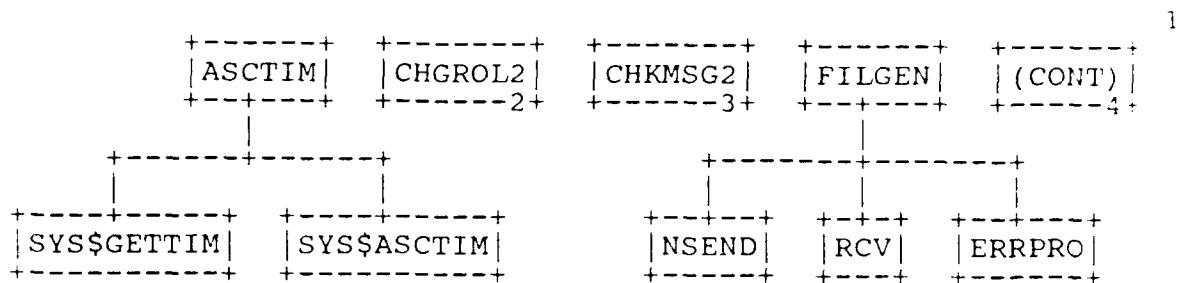
DESCRIPTION:  
-----

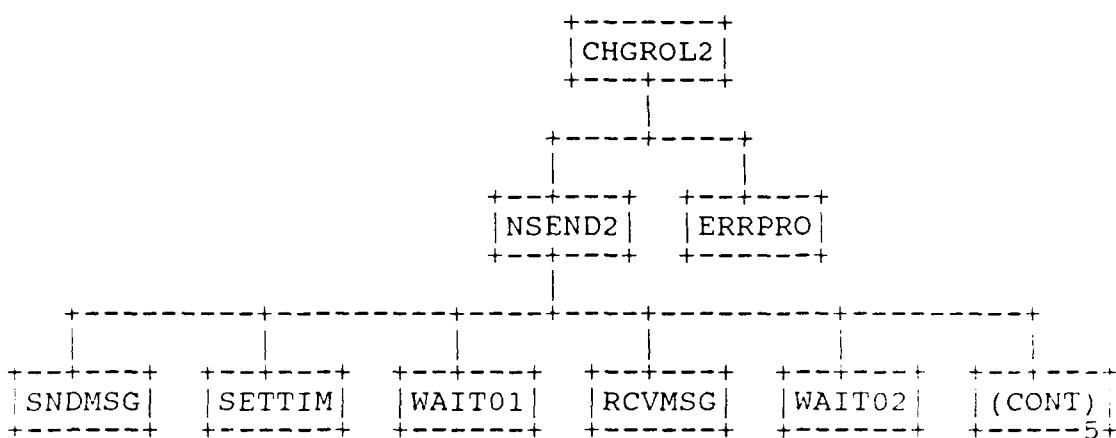
### 3.10.10 Hierarchy Chart

The following hierarchy charts show the relationships between all of the modules mentioned in the above documentation. A module may call a subroutine several times within its code, but the call will only be shown once as a single relationship on this hierarchy chart. All modules shown at the top of the first page are considered Main Programs as described in section 3.1.1 above.

There is an internal paging scheme as marked by the numbers in the upper right corner of each page. An index after the last page of the chart shows where a routine and its calls are first defined. If a routine has no page reference, it either makes no calls or is an external routine. A continuation box on the end of a tree limb shows where that the tree continues on the page number mentioned. A number in a box with a routine name points to the page where the routine is further defined within the hierarchy tree. If there is no number in a box, the routine either makes no calls or is an external routine.

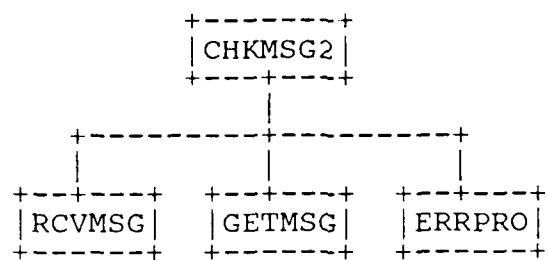
PS 620342300  
30 September 1990





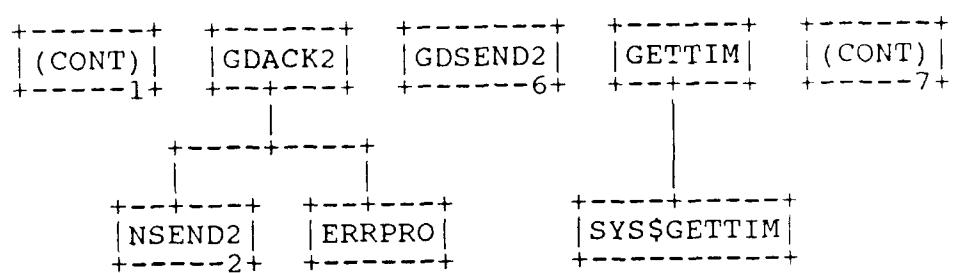
PS 620342300  
30 September 1990

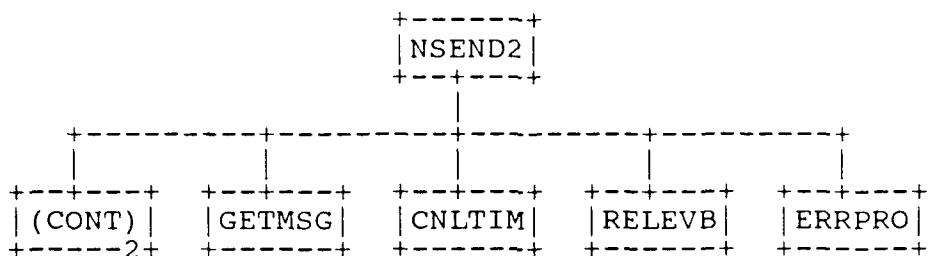
3



PS 620342300  
30 September 1990

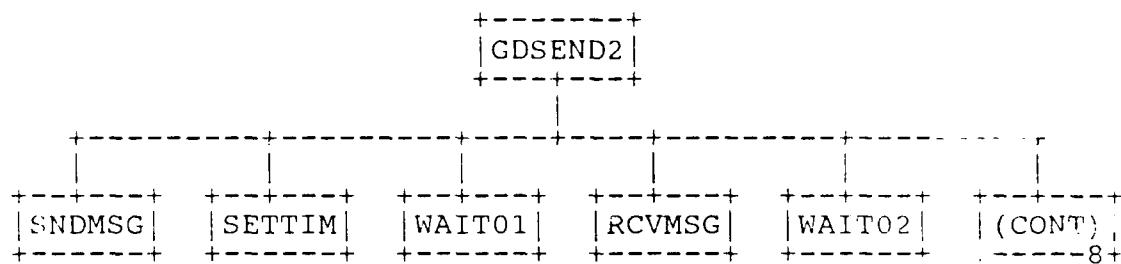
4





PS 620342300  
30 September 1990

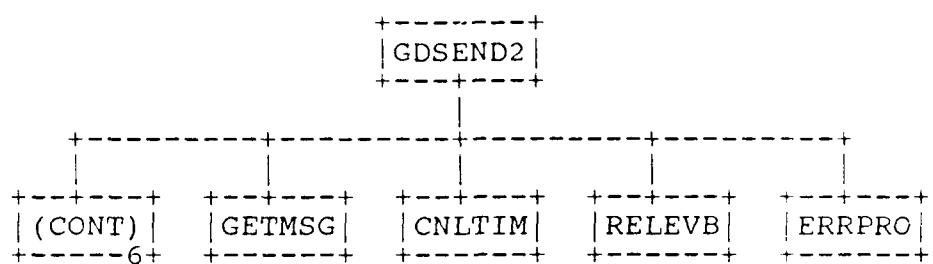
6

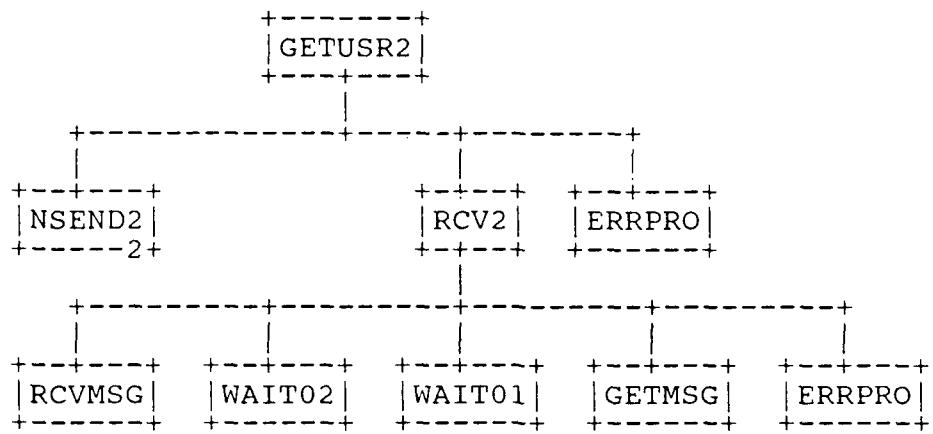


PS 620342300  
30 September 1990

7

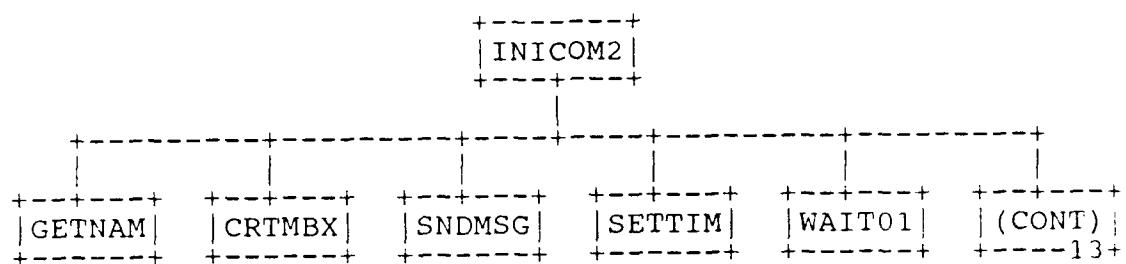
+-----+   (CONT)   +-----+   GETUSR2   +-----+   INICOM2   +-----+   INITIAL2   +-----+   (CONT)	+-----+ 4+ +-----+ 9+ +-----+ 10+ +-----+ 11+ +-----+ 12+
--	---





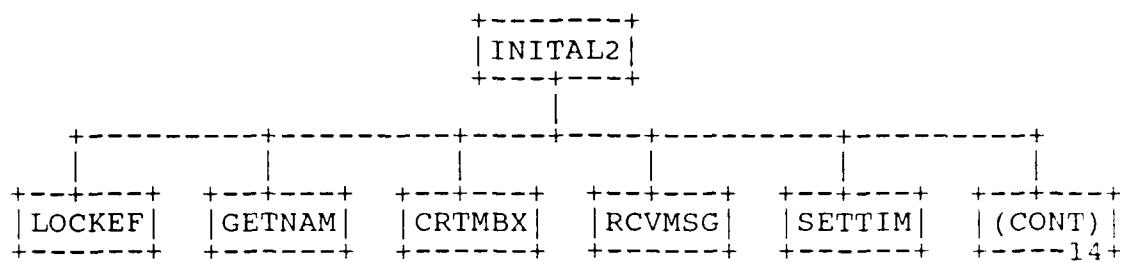
PS 620342300  
30 September 1990

10



PS 620342300  
30 September 1990

11



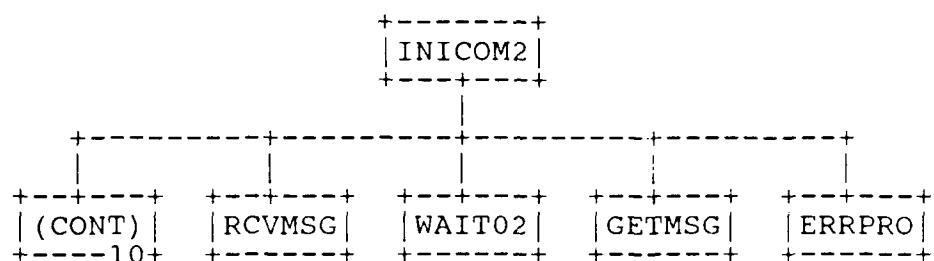
PS 620342300  
30 September 1990

12

+-----+   (CONT)	+-----+   INITEX2	+-----+   INITIL2	+-----+   ISEND2	+-----+   (CONT)
+-----7+ +-----15+ +-----16+ +-----17+ +-----18+				

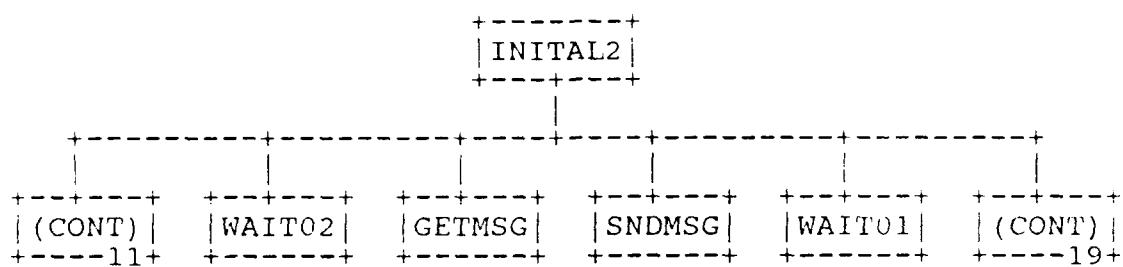
PS 620342300  
30 September 1990

13



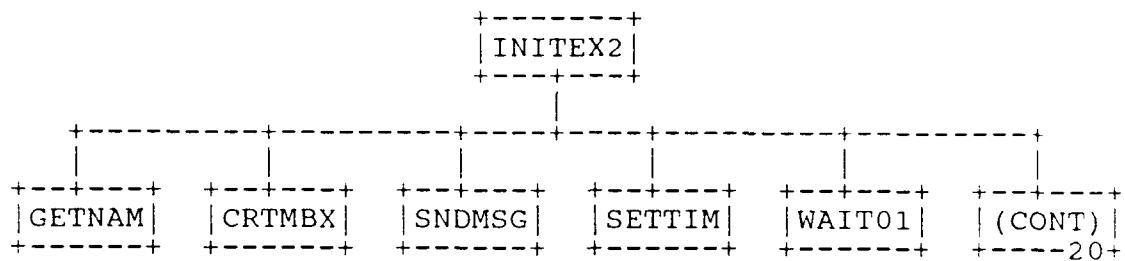
PS 620342300  
30 September 1990

14



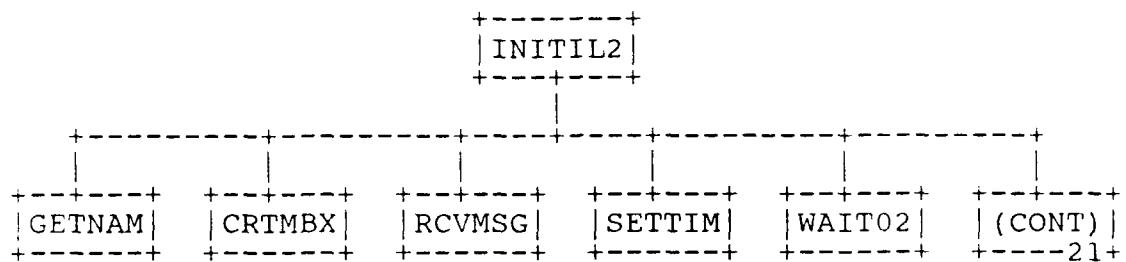
PS 620342300  
30 September 1990

15



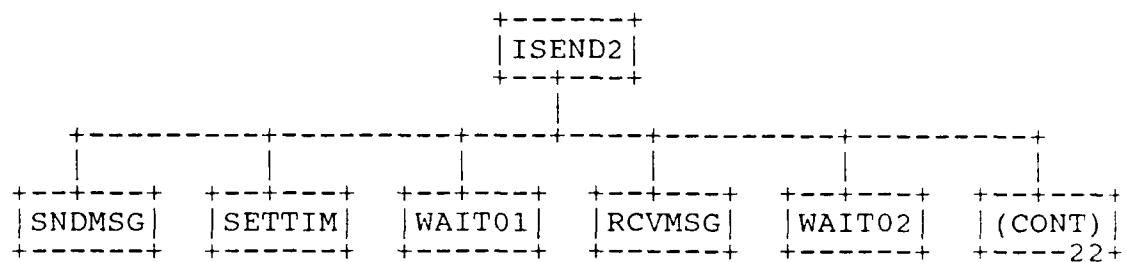
PS 620342300  
30 September 1990

16



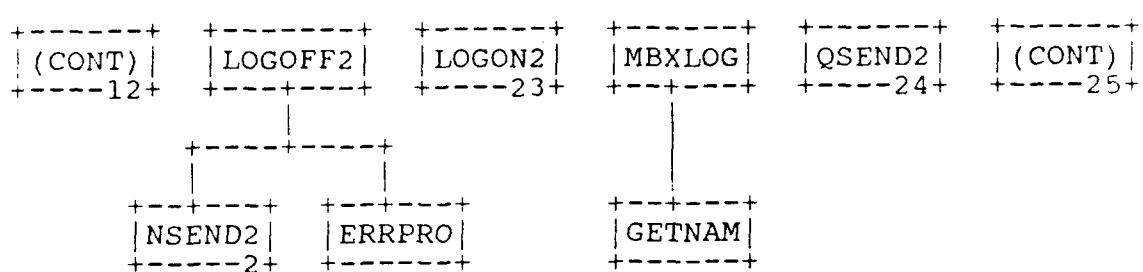
PS 620342100  
30 September 1990

17

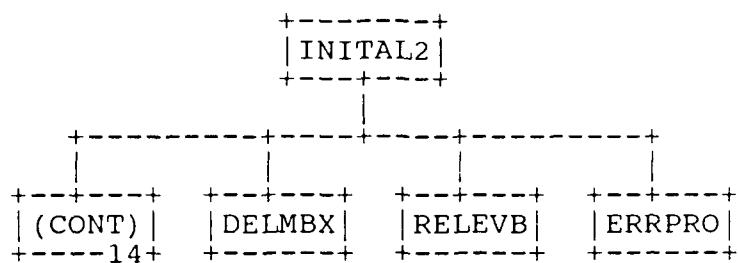


PS 620342300  
30 September 1990

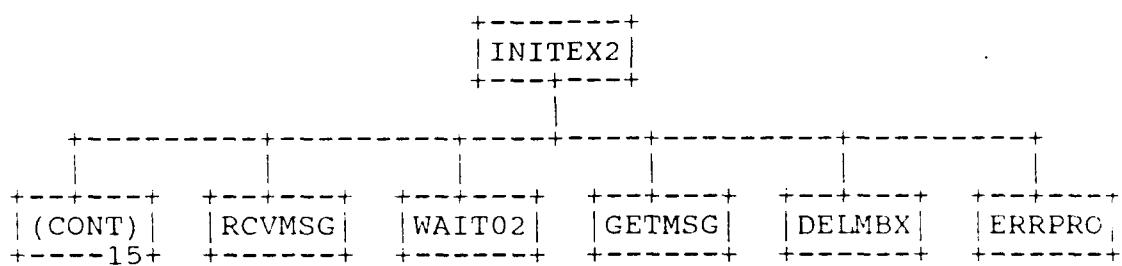
18



19

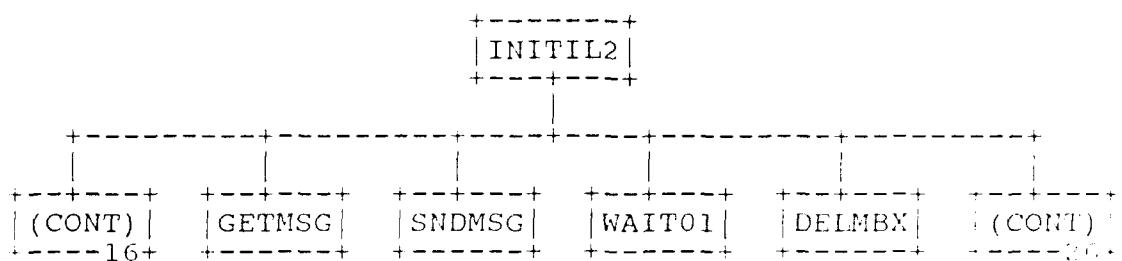


20

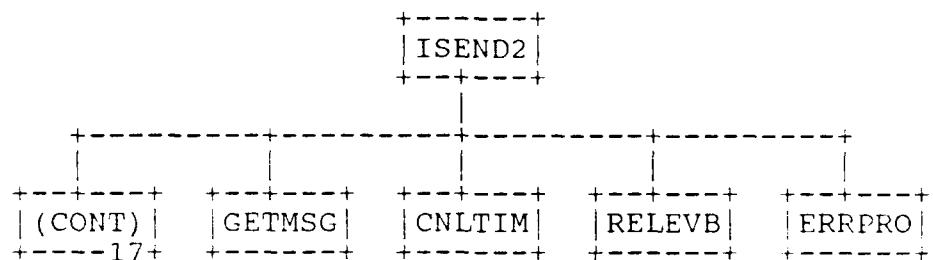


PS 620348  
30 September 1968

21

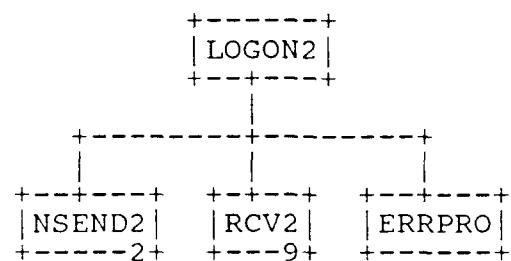


22



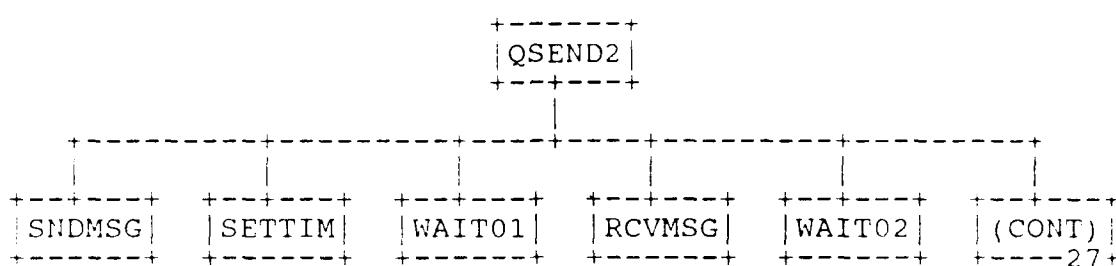
PS 620342300  
30 September 1969

23



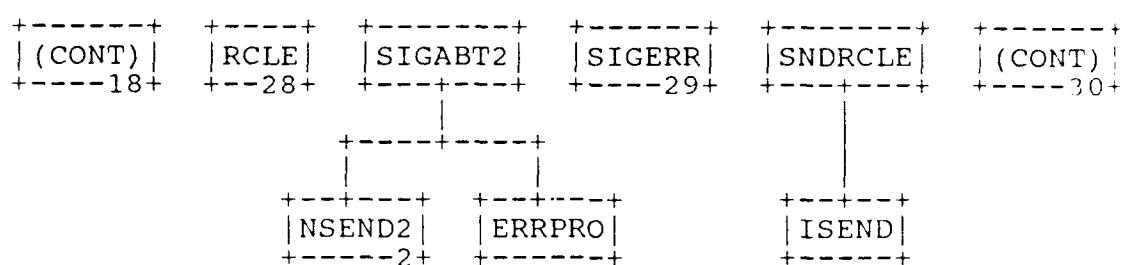
PS 620342300  
30 September 1990

24



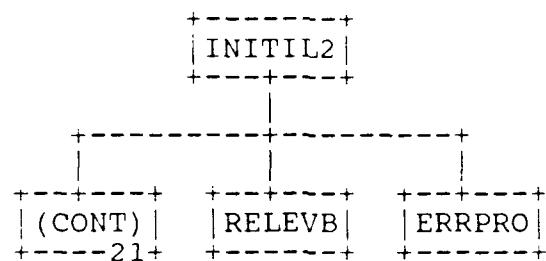
PS 620342300  
30 September 1990

25



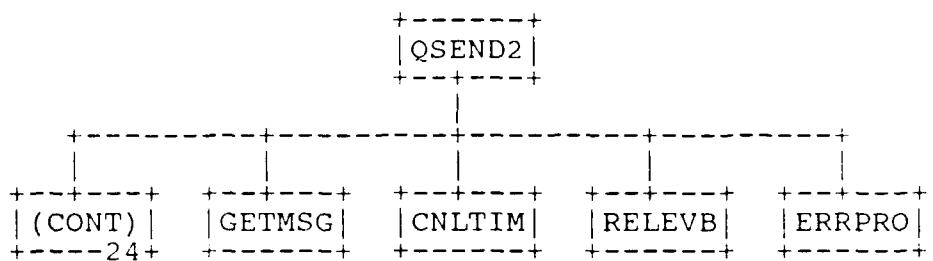
PS 620342300  
30 September 1990

26

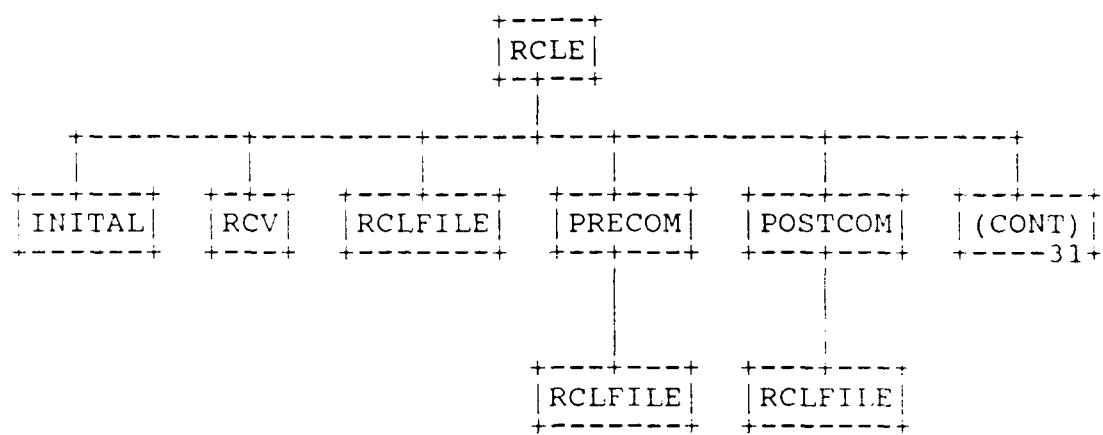


PS 620342300  
30 September 1990

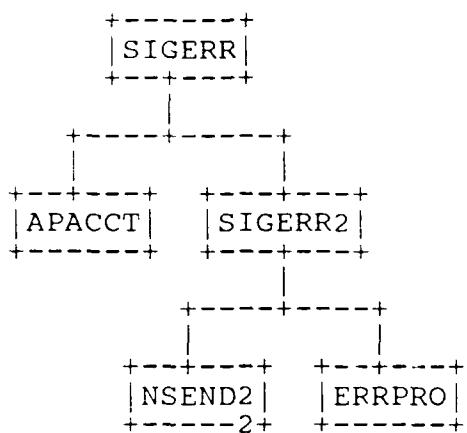
27



28



29

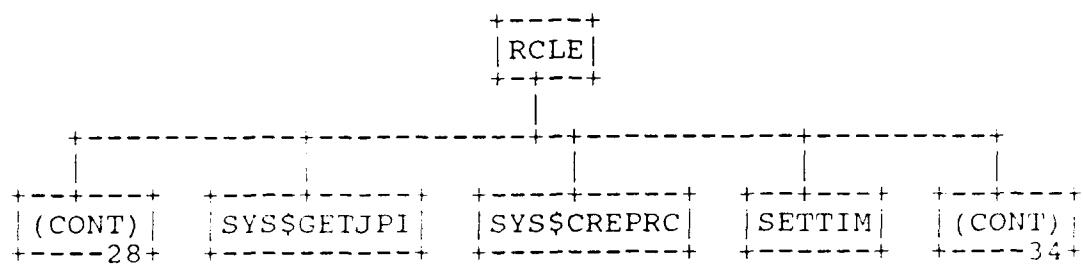


PS 620342300  
30 September 1990

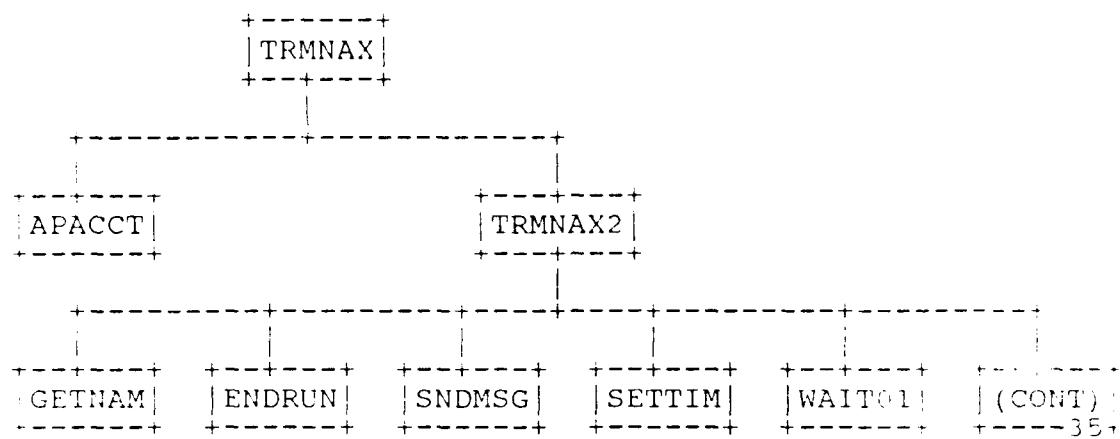
30

+-----+   (CONT)   +-----+   25+	+-----+   TRMNAX   +-----+   32+	+-----+   TSTMOD   +-----+   33+	+-----+   WHTHST   +-----+   33+
+			
+-----+   APACCT   +-----+   165	+-----+   TSTMOD2   +-----+   165		

31

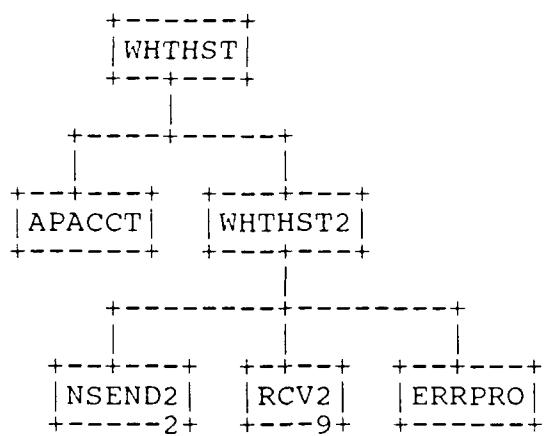


32



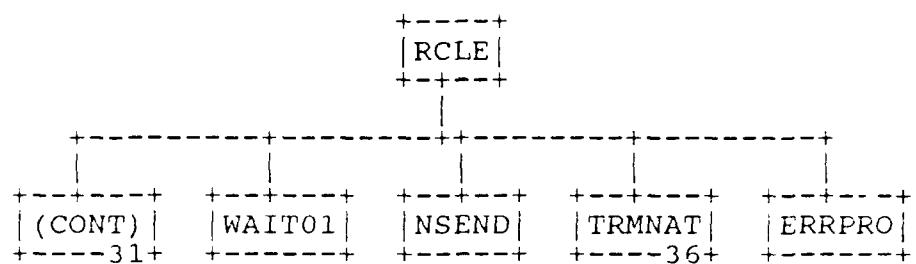
PS 62034200  
30 September 1990

23

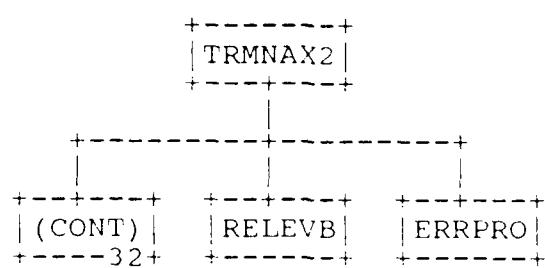


PS 620342300  
30 September 1990

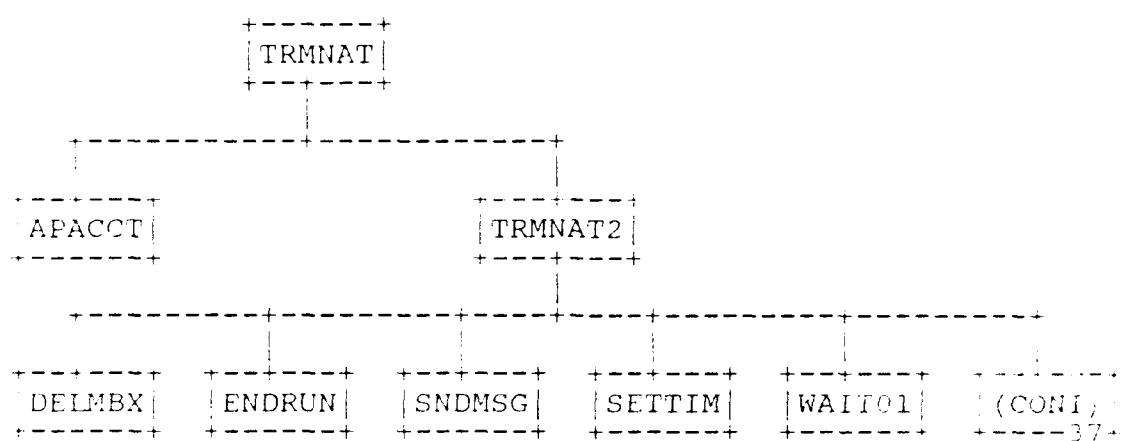
34



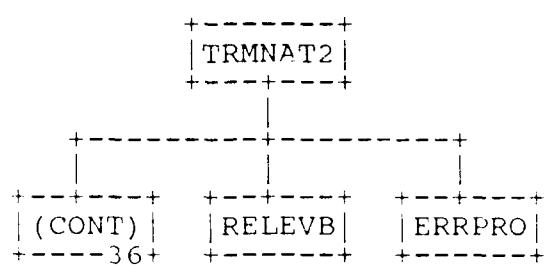
PS 62044700  
30 September 1969



36



PS 620342 100  
30 September 1968



APACCT	SYSSGETTIM
ASCTIM.....1	TRMNAT.....36
CHGROL2.....2	TRMNAT2.....36
CHKMSG2.....3	TRMNAX.....32
CNLTIM	TRMNAX2.....32
CRTMBX	TSTMOD.....30
DELMBX	TSTMOD2
ENDRUN	WAIT01
ERRPRO	WAIT02
FILGEN.....1	WHTHST.....33
GDACK2.....4	WHTHST2.....33
GDSEND2.....6	
GETMSG	
GETNAM	
GETTIM.....4	
GETUSR2.....9	
INICOM2.....10	
INITAL	
INITIAL2.....11	
INITEX2.....15	
INITIL2.....16	
ISEND	
ISEND2.....17	
LOCKEF	
LOGOFF2.....18	
LOGON2.....23	
MBXLOG.....18	
NSEND	
NSEND2.....2	
POSTCOM.....28	
PRECOM.....28	
QSEND2.....24	
RCLE.....28	
RCLFILE	
RCV	
RCV2.....9	
RELMSG	
RELIEVE	
SETTIM	
SIGART2.....25	
SIGERR.....29	
SIGERR2.....29	
SNDMSG	
SNDRCLE.....25	
SYSS\$ASCIIM	
SYSSCREPRC	
SYN\$GETJPI	

3.11 Program Listings Comments

This information is contained in the Module Descriptions in section 3.10.

SECTION 4  
QUALITY ASSURANCE PROVISIONS

4.1 Introduction and Definitions

"Testing" is a systematic process that may be preplanned and explicitly stated. Test techniques and procedures may be defined in advance and a sequence of test steps may be specified. "Debugging" is the process of isolation and correction of the cause of an error.

"Antibugging" is defined as the philosophy of writing programs in such a way as to make bugs less likely to occur and when they do occur, to make them more noticeable to the programmer and the user. In other words, as much error checking as is practical and possible in each routine should be performed.

4.2 Computer Programming Test and Evaluation

The quality assurance provisions for test consists of the normal testing techniques that are accomplished during the construction process. They consist of design and code walk-throughs, unit testing, and integration testing. These tests are performed by the design team. Structured design, design walk-through and the incorporation of "antibugging" facilitate this testing by exposing and addressing problem areas before they become coded "bugs".